

Michel Van Aerde Memorial Scholarship Award: Jillian Straus, McGill University Scholarship Recipient 2015

Jillian was born and raised in Montreal and uses this city as the study location in all of her work. She pursued her Bachelor's, Masters and PhD in civil engineering at McGill University in the heart of downtown Montreal. Jillian's research interests include road safety and design, active and non-motorized modes of transportation as well as air quality. Since January 2010 Jillian has worked as a research assistant and a teaching assistant at McGill University.

Description of Project

Jillian's ITS related project involves processing the cyclist trip data coming from the Mon RésoVelo smartphone application launched by the City of Montreal in the summer of 2013. This application records second-by-second locations and timestamps. From this data, Jillian has been developing a methodology to obtain reliable bicycle exposure measures by converting GPS counts to average annual daily bicycle flows for use in safety performance functions. This data is also used to quantify the increases in cyclist numbers and see where they are riding and serves as a planning tool for identifying where to build new infrastructure or improve current infrastructure. Overlaying flows and injuries also show if cyclists are preferring certain routes and whether these are safe or not. This same data is also being used to obtain cyclist travel times and speeds along roads as well as to compute cyclist delays through intersections. Using the extracted speed and acceleration data, this data is also being used to develop a surrogate safety measure for identifying dangerous locations for cyclists without waiting many years to witness accidents and fatalities, thus going from a reactive to a proactive approach.