

## Kitchener Experiences Traffic Chaos In A Roundabout Way

*Posting Date: 30 October 2011*

We all expected that the construction of new roundabouts in North America would bring a better flow of traffic, less gas consumption and safer intersections. Imagine the disappointment when a large roundabout was completed at the intersection of Homer Watson Boulevard and Block Line in Kitchener, Ontario, Canada only to see traffic accidents increase while also causing impacts with pedestrians attempting to pass through it. What's going on? Did we all get tricked by those fancy talking Europeans into spending millions of dollars for nothing? Let's take a look at the problem in a little more detail.

We checked out the functioning of the roundabout this week by placing a number of video cameras around it to observe what was going on.

When we arrived to noted that the Regional Municipality of Waterloo had already taken additional steps to try and get a handle on the problem. The photo below is a view looking south along Homer Watson Boulevard from just north of the new roundabout and you can see that a large, electronic display panel has been set up to remind drivers of the need to yield to pedestrians.



A nice, lime-green, pedestrian crossing sign is also posted just before the large electronic panel.

As we proceed further southward we see (photo below) the typical green sign illustrating the layout of the roundabout ahead.



The east/west roadway which intersects with Homer Watson is called Block Line Road and, although it is not a low volume road, it carries far less traffic volume than the Homer Watson arterial road. Suffice it to say that this is just one of the many problems. Because, as this large volume of southbound traffic on Homer Watson comes spilling its three lanes of traffic into the roundabout it does so at a time when there is a relatively few numbers of vehicles passing through from Block Line.

The photo at the top of the following page shows a north view of that southbound traffic viewed from the roundabout and we can see how these three lanes spill into the intersection. While the view only shows a group of just four southbound vehicles this photo was taken during less traffic just so that you could see the painted arrows in each lane informing the drivers which lane they should choose depending on where they want to go. Well, there are a lot of painted arrows. Just at a location when the driver must steer the vehicle around a brief curve at the entrance to the roundabout. And if you are new to the area and you are approaching this confusion for the first time you may be in

the wrong lane to begin with and must make a quick decision to move over, in dense traffic and trying to get around this designed curve before you even enter the roundabout.

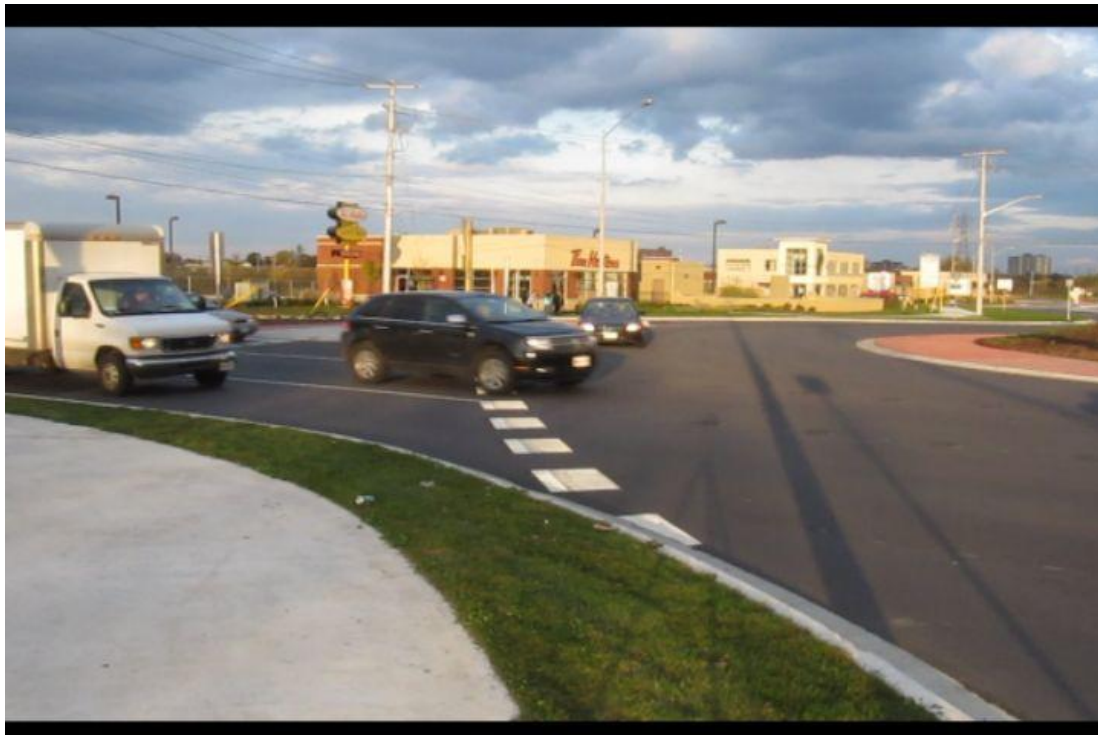


Let us see some horror stories from our videotapes.

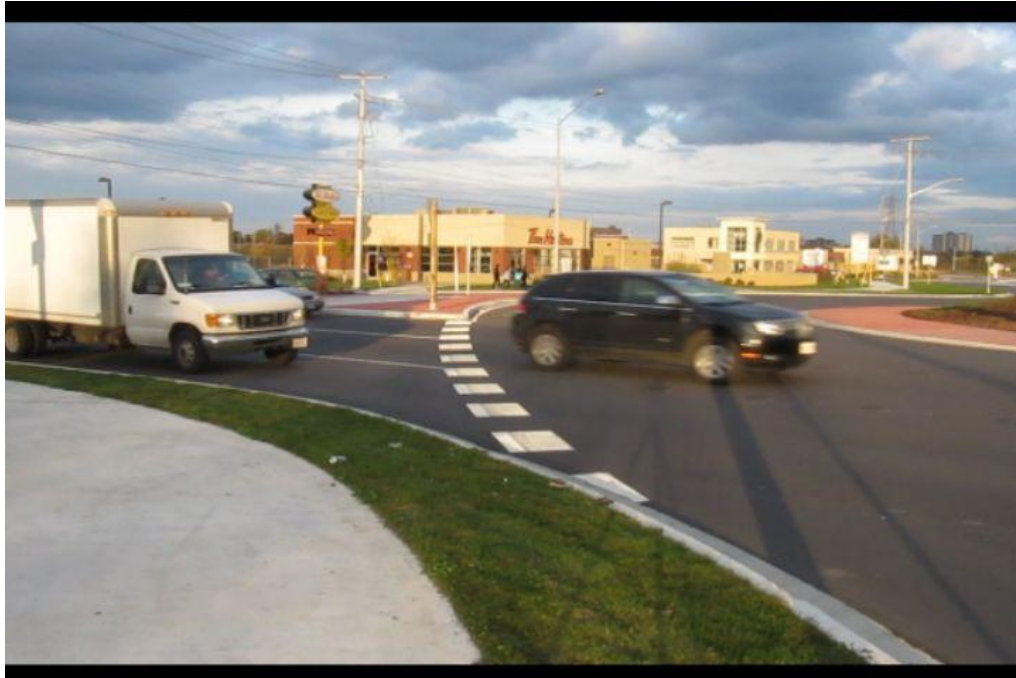
First, we set up the scenario in the photo at the top of the following page. This will be a set of frames exported from the videotape from one of our cameras that is pointing generally eastbound. The frames show the action taken a half second intervals. So the first frame at the top of the following page shows the southbound traffic of Homer Watson entering the roundabout from the left and you can see a charcoal-coloured car coming around the roundabout in the background. You can see that a southbound car has already entered the roundabout and is just passing out of the view to the right. So the rules at this roundabout state that vehicles entering the roundabout must yield to the traffic that is already in the roundabout. So the vehicle that is in the roundabout and is approaching the video camera has the right-of-way and all those southbound vehicles that you see to the left, that are trying to enter the roundabout must wait until the vehicle in the roundabout passes by. But note that there is just a single vehicle within the roundabout and (although you cannot see them yet) there are many southbound vehicles coming into the roundabout from three lanes.



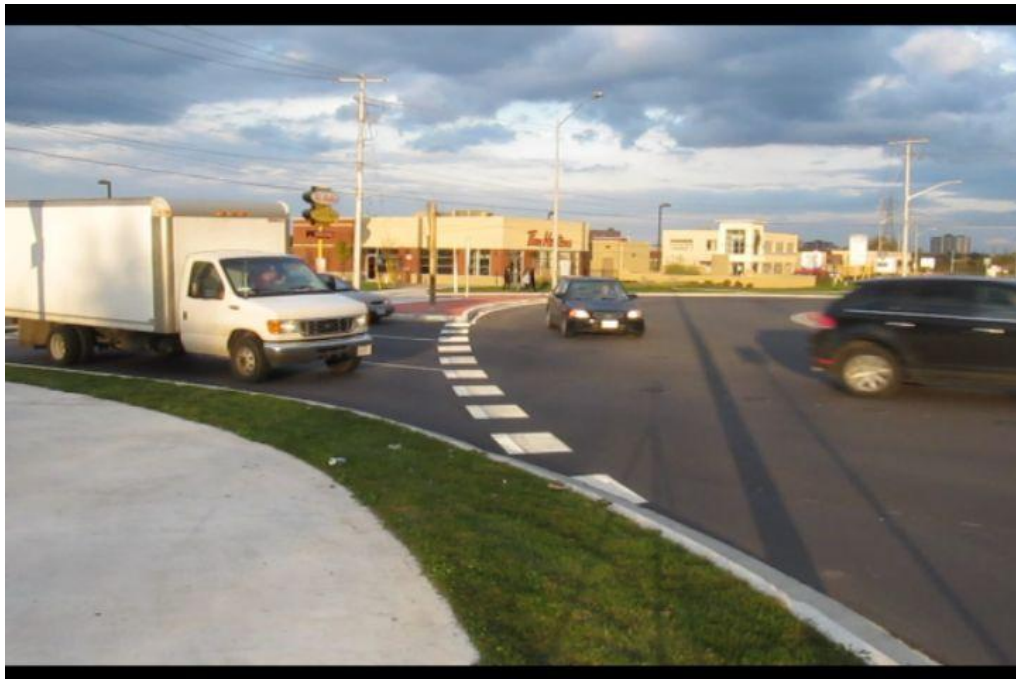
In the next frame below we see what transpires half a second after the first frame (above).



You can see that the dark-colour station wagon or SUV has entered the roundabout in front of the car that is already in the roundabout - but it gets worse. Next frame please...



The dark coloured vehicle passes through the roundabout while the white truck beside it is essentially stopped and is waiting. Next frame please...



And notice in the frame above that our little charcoal-coloured car is still coming toward our camera. ...and the white truck is still where it should be...and there are no other cars anywhere else...or are there? Next frame please.

Suddenly, out of nowhere, we see the front end of a blue car emerging past the front end of the crawling white truck.



Wait a minute, that is not supposed to happen. Our charcoal-coloured car is already there and coming toward the camera. There is no room for this blue car to enter the roundabout, or is there? Next frame please.



Well, wait a minute, it just do so...look at the frame above...it just drove directly in front of our charcoal-coloured car. If you had been there like I was you would have heard the very loud screeching of tires as the driver of our charcoal-coloured car hammered on the brakes and came to a stop within an inch two off the right side of that blue car.

And then you can see (below) how the driver of the blue car just kept going. Leaving chaos and meyhem in his/her midst.



The young female driver of the charcoal-coloured car could be seen shortly afterwards as she flung both arms in the air and then dropped her head into her steering wheel at the realization that she just missed a collision with the shortest possible time and distance. She sat there for a few seconds in a stopped position and composed herself as shown in the past frame on the following page.

In examining the scenario again, the above frames were shown at half second intervals. So from the time that the blue car first emerged beyond the front end of the white truck up to the time shown in the above frame, the elapsed time was only about 1 second. Surely not enough time for the driver of the charcoal-coloured vehicle to avoid a collision. The only fact that prevented this collision is that the driver of the charcoal-coloured car must have seen the blue car approaching the roundabout and she realized this blue car was not going to stop. In fact that is the case because, just before the blue car entered we could hear a car horn sound and this was likely the driver of the charcoal-coloured car blowing her horn before the blue car entered - but to no avail.



The photo below shows another common instance that happens at this roundabout. We see a pedestrian raising his arm to indicate to the truck driver that he is intending to cross.



Yet in the next frame (below) we show you what is positioned to the right of the truck - a small car.



It can be seen in the frame below that the pedestrian made it safely across but that will not be the case in many situations.



In many such instances the car driver's vision is blocked by a large truck to such a degree that the car driver simply passes the truck without realizing that a pedestrian is attempting to cross. It makes for a dangerous situation. This is partly due to the positioning of the stopped truck with respect to the pedestrian crossing. To understand we must look at the signage that was placed next to the cross walk, as shown below.



The above is a typical sign that has been placed to supposedly to guide drivers about how they should deal with crossing pedestrians. The drivers are instructed to yield to pedestrians by stopping "Here". But where is "Here"? The photo on the following page shows where the sign is located. Notice that the sign is located right next to the edge of the pedestrian crossing line. So if the driver does what he/she is told the front of the vehicle will come to a stop directly at the edge of the pedestrian crossing zone. And if a driver is coming along in the adjacent lane he/she will not know if there is a pedestrian in that crossing area because the view will be blocked by the stopped, or stopping vehicle.

And this is not the only problem. Look at the size of the instructions on the yield sign. The writing is so small that, by the time a driver can read it the vehicle is almost upon the crosswalk. Certainly many drivers will be familiar with the area and sign and they will

have seen it before, but what about a driver who is new to the roundabout? New drivers will receive no help or instruction was a sign that has writing that is this small.



Let us also show you a final example of bad planning. Below is a photo of a Tim Horton's outlet that has been built at the edge of the roundabout. If you are not familiar with Canada, a Tim Horton's outlet is a very popular, coffee and donut retail outlet. It is so popular that at almost every outlet one can see traffic problems as vehicles attempt to come in and out of the driveways. The planners thought they could alleviate the problems by creating no driveways that lead to the outlet in the vicinity of the roundabout, as shown in the two photos on the following page.



So, if there are no driveways then they believe there will be no traffic problems caused by the outlet. But everyone in Canada knows that when they approach a Tim Horton's outlet there will be a convenient driveway into which they can pull in.

A driver not familiar with the roundabout will start searching for the driveway as they are moving through the roundabout. But the driveway is some distance away along Block Line Road. So drivers are busy searching for this driveway that does not exist. Is this a good and safe idea? Look again at the roundabout leading up to the Tim Hortons outlet as shown in the additional photo below. Look at the wide expanse of the roundabout and recognize that there are two "lanes" without any roadway markings to tell drivers where they should be.



When you have drivers who are not familiar with the roundabout, the circular road is crowded with traffic, the drivers are looking for a Tim Horton's driveway that does not exist and you do not paint any lines on the circular road to guide drivers, are you not going to cause collisions? Are vehicles going to be wandering about the width of the circular road? Most certainly they are. And if that is not enough, they approach a pedestrian crossing immediately at the Tim Horton's outlet. Look at how many students use that pedestrian crossing at peak times of the day, as shown in the frame below taken from one of our video cameras.



What are the chances that distracted drivers will hit a pedestrian? In fact this has already happened.

According to an article published in the Kitchener Record newspaper in late October, 2011, a 16-year-old girl was struck by a bus on October 7th, 2011 and a lawyer, Mr. David MacDonald, of the Thomson, Rogers law firm is quoted as saying there will be a law suit:

"There are very few roundabouts which are placed in locations where pedestrian traffic is heavy" and MacDonald indicates that the municipality is at fault due to "the presence of a poorly planned roundabout in a densely populated residential area in close proximity to a school which has a population of just over two thousand students".

The newspaper article further indicates that "...regional council voted to reduce the speed limit on Homer Watson Boulevard to 50 km/h in the vicinity of the roundabout, and to change signs reading 'Yield to Pedestrians' to 'Stop for Pedestrians'".

Whatever the eventual result, this particular roundabout has placed a black eye on an intersection design approach that has been known across the globe to result in benefits to our society.