

Gorski Consulting Website

Archived News - 2014 - September

September 28, 2014

Traffic Signal Malfunction – Uncommon But Also, Sometimes, Unknown

Much like the railway crossing malfunction discussed a couple of days ago, we also observed a traffic signal malfunction on the evening of September 28, southbound on Clarke Road at the intersection of Fanshawe Park Road, as indicated in the photo below.



Fortunately, a traffic-signal-controlled intersection contains at least two signal heads for a particular direction of travel. As indicated above, one of the signal heads for southbound traffic on Clarke Road at Fanshawe Park Road was not functioning on Sunday evening, September 28th, 2014.

As can be appreciated, there is a very good reason why, at least, two signal heads exist at controlled intersections. Much of the time a signal can be obscured by tall traffic such as a tractor-trailer. However, on more rare occasions, a traffic signal can simply be inoperative. Sometimes it is difficult for reconstructionists of motor vehicle collisions to determine if a signal was not functioning properly and was a factor in the cause of a collision.

September 26, 2014

Rail Crossing Malfunction - The Public's Patience Can Be Deadly

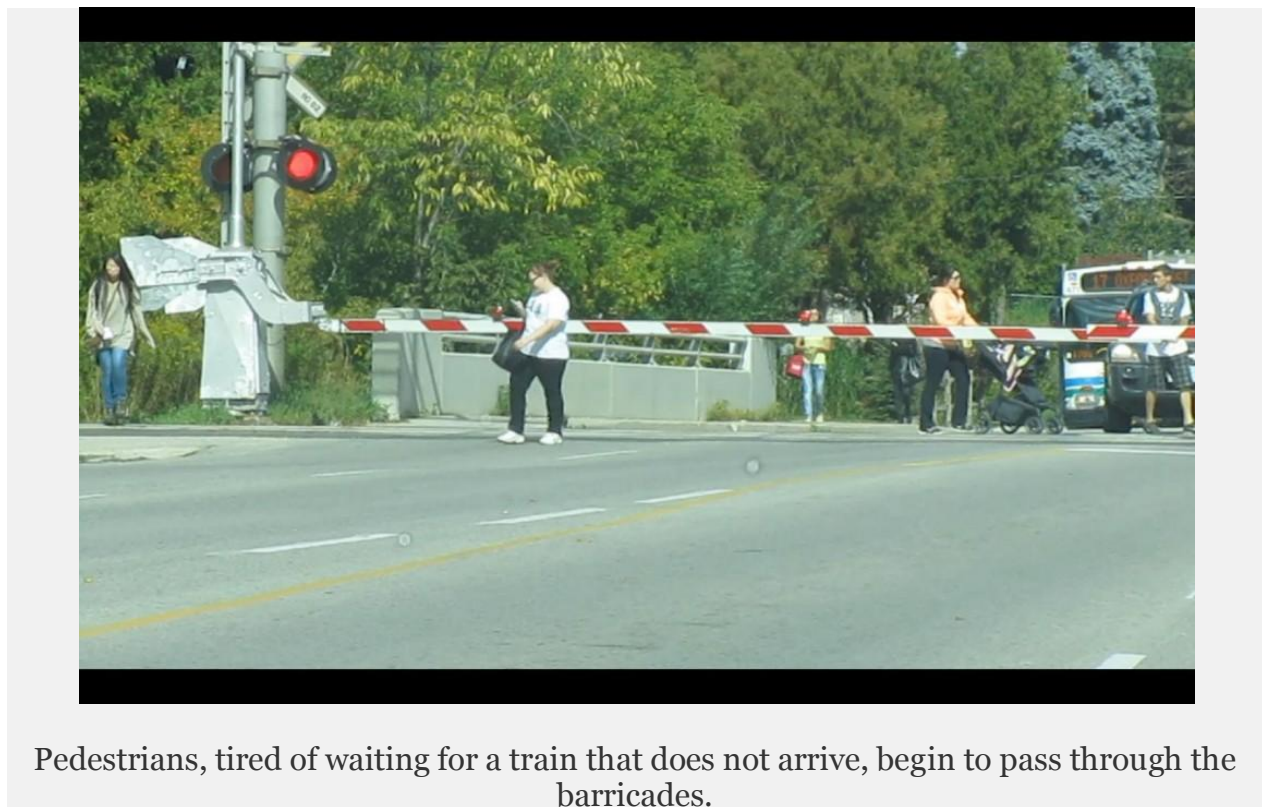
We always hear of the lack of patience that drivers possess on our roads, and rarely do we hear of the opposite. The following incident highlights this opposite, so much so, that it could be deadly.

On Sunday, September 21, 2014 at approximately 1120 hours we happened to be travelling northbound on Clarke Road in London, Ontario. As we approached the red traffic signal at the busy intersection of Dundas Street we looked ahead to the railway crossing just a couple of hundred metres north of that intersection. Curiously, the barricade arms were down, the lights were flashing but there was no train. There did not appear to be a great build up of traffic so we concluded that the barricade must have just come down and a train was sure to approach shortly. But as our signal turned green and we proceeded forward we realized that something was not quite right. The train had still not come.

As we came closer we saw traffic begin to turn around. That is not a good sign. Drivers do not turn around until they have been waiting for quite some time and they have become tired of waiting. We also looked to the other side of the barricades and noticed a number of waiting pedestrians. Clarke Road in this area is not known for a large number of pedestrians, so this larger gathering was an indication that they had been delayed for some time, as shown below.



The minutes pass and the drivers and pedestrians become tired of waiting...and we see the pedestrians start to move forward...through the barricades.

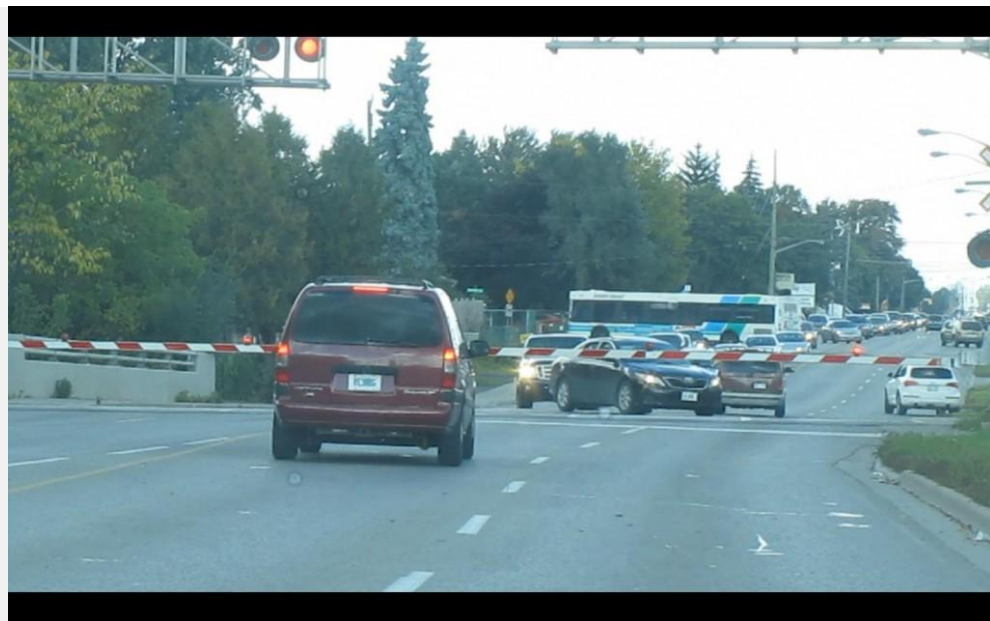


At least one of the pedestrians is a woman, possibly a mother, pushing a baby carriage, as shown below.



A woman pushing a baby carriage walks through the railway barricade.

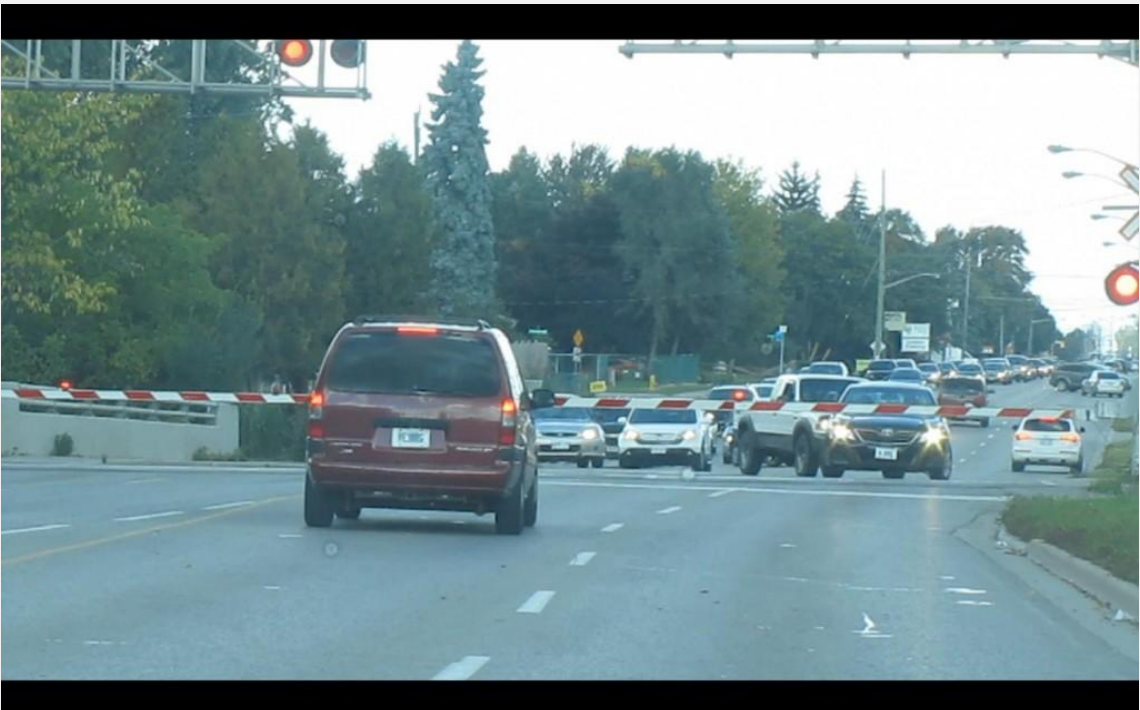
Next we noticed the drivers of vehicles begin to move forward and through the barricades, as shown in the photos below.



One of numerous vehicles that passed through the lowered barricades.



Vehicles passing through the lowered barricades.



Vehicles passing through the lowered barricades.



Vehicles passing through the lowered barricades.

And time moved on...

After over 20 minutes of watching pedestrians and vehicles passing through the barricades we began to ponder. Surely someone must have called an authority by now so something could be done. But why has no one come?

You might be wondering why we referred to this happening as an indication of the public's patience, yet, clearly we are showing persons who appear to be impatient as they clearly passed through the lowered barricades without waiting. But how long had they been waiting...

Finally we grabbed our cell phone and called "911".

We stated "We expect you may have been told about this already however..." We began to explain that, although the authorities were likely working on the problem, there were vehicles and pedestrians passing through the barricades, so much so that, if a train

actually came, someone could get hurt...or worse. Maybe a police cruiser should show up and prevent these crossings while the problem is being taken care of.

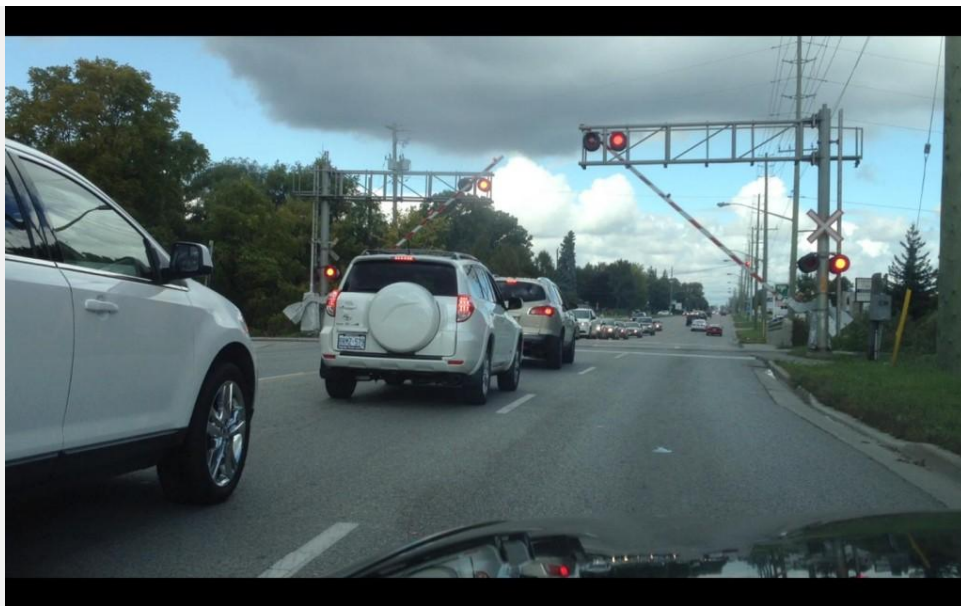
The dispatcher on the other end said “Oh, we’ll call the rail authority right away”.

Wait a minute, what do you mean you will call the rail authority right away? Did you not call the rail authority an hour ago, or a half hour ago?

The point is, ours was the first call to 911. NO ONE had called. Well over 20 minutes had passed, even during the time that we were at the barricades. Who knows how long the barricades were down before we arrived. Yet no one called 911. The public was just willing to sit there, and sit there. Perhaps turn the car around, perhaps go through the barricades. So is this really impatience or incredible patience? Willing to just sit and do nothing about the problem except bypass it and let someone else deal with it.

And so we waited and watched some more.

Another 10 minutes passed. Then suddenly the parting of the red sea... the barricades suddenly started rising and all the waiting vehicles and pedestrians began to move forward, as shown below.



10 minutes after calling 911, the barricades are magically raised and traffic begins to move forward.

And we also advanced to make our crossing. But 25 seconds later, down come the barricades again and the public is trapped once again.

Then over a half hour after our call to 911, a white railway truck arrives on scene, as shown in the left corner of the photo below.



The barricades come down again, stranding motorists.

The rail worker disappears into a nearby hut and a few minutes later the barricades are finally lifted.

In total we stayed at the site for over an hour. But no one really knows how long the barricades were down before we arrived. Yet no one did anything. If we had not called 911, would the drivers and pedestrians just continue to accept the status quo? Driving around the barricades or turning around to look for another route? Patiently accepting this circumstance, drivers and pedestrians were willing to walk and drive around the barricades rather than address the problem. To us this is not a good kind of patience.

September 18, 2014

Another Fatal Rear-End Impact of Tractor-Trailer on Highway 401 East of London Ontario

In a May 9, 2014 news item on this News webpage our first sentence with respect to a fatal rear-end collision that occurred on Highway 401 at the Dorchester Road ramp was *“Rarely does the public obtain any useful information with respect to fatal collisions that they can use to avoid them”*.

It is being reported that another possible fatal, rear-end collision may have occurred earlier this morning, September 18, 2014, at the ramp just east of Elgin Road. Elgin Road is the first exit east of Dorchester Road and it is only a kilometre or two from the site of the above-mentioned fatal collision site that occurred on May 9th.

Obviously, the specifics of this case are still sketchy, because it reportedly occurred at about 0030 hours, or about 7 hours ago. However, the London Free Press is reporting that a transport truck had been parked on the shoulder just east of Elgin Road when a car drove into the back of it. At face value, these are very similar circumstances to the situation on May 9th, when a car also drove into the back of a transport truck parked at the end of the westbound entrance ramp.

Referring back to our words of May 9th, 2014:

“what has been done to inform the public of the presence of these circumstances? None of the news articles even mentioned the fact that this collision occurred at the entrance ramp. So far as the public is concerned they would believe it just happened on a straight section of Highway 401. Where is the education to inform the public of this important danger? If the public was truly aware of the problem there could be more effort to make sure that truck drivers understand where it is dangerous to park their trucks.”

We will await further details to see if the present fatal collision resembles the previous one and whether our earlier comments also apply here.

UPDATE: September 18, 2014; 1250 Hours

Having now conducted an examination of the collision site we conclude that the circumstances in the present collision are different with respect to the parked position of the tractor trailer when it was struck. Rather than being at the end of the entrance ramp, as was the case in the May 9th fatality, the tractor-trailer's location in the present case was on the paved shoulder, next to the eastbound curb (outside) lane of Highway 401.

The two figures below provide eastward views along Highway 401 toward the area of impact which occurred on the paved shoulder at the "V" where the eastbound curb lane meets with the eastbound entrance ramp from Elgin Road.



View, looking east, from atop the overpass of Elgin Road, toward the accident site in the background.



View, looking east, toward the area of impact that occurred in the “V” that joins the eastbound curb lane of Highway 401 and the eastbound entrance ramp from Elgin Road.

A close look in the above photo will indicate some dark stains and tire marks that identify the area of impact. That evidence is more clearly visible in the photo below which is taken from just east of the area of impact and looking back, westward, toward Elgin Road.



View, looking westward from the area of impact along the paved shoulder next to the eastbound lanes of Highway 401. The stains and tire marks are indicative of the area of impact. There is no evidence of any pre-impact skid marks from the striking vehicle.

There was no evidence of any pre-impact skid-marks on the part of the striking vehicle.

The site evidence cannot explain why the tractor-trailer was stopped in the noted position nor can it explain why the striking vehicle was travelling on the paved shoulder. While we could speculate that the driver of the striking vehicle may have mis-judged that the paved shoulder was actually a lane due to the dark conditions of the area at the time of impact, we do not have any knowledge or evidence that this was one of the factors. It is one of those cases where investigators with all the facts are the only ones in a position to identify the causal factors.

This incident raises the issue once again about stopped vehicles being located in undesirable locations of Highway 401 where the probability of a severe rear-end impact is magnified. Ontario has attempted to deal with the problem by enacting legislation that requires drivers to slow down and change lanes when they encounter vehicles stopped adjacent to the travel lanes of Highways such as the 401. It is our belief that such legislation is mis-guided as it fails to recognize that blame and punishment are not the root solutions. In fact, slowing and changing lanes are the very acts, in our experience, that change the constant flow of traffic and lead to more collisions.

A highway such as the 401 is highly congested with heavy vehicles as more than 50% of the vehicles on a workday are generally heavy vehicles. In fact the curb (outside) lane is almost exclusively populated by heavy vehicle traffic (as demonstrated by some of the photos above). At many times and locations the suggestion that such vehicles can safely slow down and change lanes in the time given to recognize the presence of a stopped vehicle is unreasonable, even when those stopped vehicles are equipped with emergency lighting.

Our belief is that the only major improvement in the status quo is to develop parking or stopping areas near most interchanges. Such areas could be positioned next to the shoulder of a highway and wide and large enough to accommodate large, heavy traffic as well as light vehicles and emergency vehicles. Presently, disabled vehicles or emergency vehicles have no choice but to stop on a relatively narrow shoulder that is too close to the very high speed vehicles. Drivers on Highways such as the 401 habituate to the belief that the speed of traffic will continue to be the same because, for very long stretches of time and distance, this is exactly what occurs. Asking these drivers to be more attentive by imposing penalties is not likely to solve the problem. Large parking or stopping areas may be expensive and difficult to achieve at many locations however we believe they can also be of substantial benefit by taking more stopped vehicles away from the conflict zone of high speed traffic.

There is too little information being made available to the general public to illicit the point that police highway stops are extremely dangerous on highways such as the 401. Police and their vehicles have been struck too often, resulting in tragic consequences. This could require that police that conduct traffic stops should require detained vehicles to proceed to the stopping or parking area where they can be processed, rather than

stopping on the narrow shoulders. Legislation requiring such actions might be a more logical step than the current "slow down and change lanes" legislation.

Stopping or parking areas are not a panacea that will remove the problems of severe rear-end crashes altogether. However, in our view, they would be an overall improvement to the status quo.

September 16, 2014

GM Ignition Switch Catches NHTSA in its Net

Not surprisingly, a U.S. senate committee hearing finally asked the important question whether the U.S. safety regulator, the National Highway Traffic Safety Administration (NHTSA) had any role to play in the failures to detect the GM ignition switch defects in a timely fashion. A U.S. House of Representatives committee report was released today, September 16th, 2014, that was described by the New York Times newspaper as a "scathing report" of NHTSA's failures.

As an example of the status of affairs we noted how the report described a Wisconsin State Trooper's investigation in 2006 of a fatal collision involving a 2005 Chevrolet Cobalt "revealed that the vehicle's ignition switch was in the 'accessory' position. The State Trooper located a Technical Service Bulletin (TSB) from the vehicle's manufacturer, General Motors (GM), which suggested the vehicle could be inadvertently turned off due to a low torque ignition switch. The State Trooper determined that the likely cause of the non-deployment of the frontal air bags was tied to the vehicle being in the 'accessory' position, possibly due to the low torque ignition switch". The tone of the conversation suggests that the reason why highly paid and well educated and experienced employees of GM and NHTSA could not identify the problem was because they did not have access to the Trooper's report.

Of the many millions of dollars spent by NHTSA and the manufacturers to keep a watch on developing trends in possible defective vehicles, these agencies' ability to find such problems must be connected to a lone State Trooper's actions who, through a magical process, finds the important key that matches the crash to the defect: simply read a TSB.

Additions to Road Data Webpage

We have now completed analysis of testing we performed on Napperton Drive in Middlesex County, and its extension, Confederation Line in Lambton County. Thus we have updated the data sheets on the Road Data webpage to include this testing.

The testing was performed in response to a fatal, single vehicle collision that occurred on Napperton Drive just east of Kerwood Road. The vehicle had been eastbound when it reportedly “lost” one of its tires and subsequently crashed into a utility pole. In fact the surface of the eastbound lane exhibited substantial alligator cracking and a pronounced change in cross-slope at the outer right third of the lane in the vicinity of where the eastbound vehicle would have entered into a state of loss-of-control.



View, looking eastward along Napperton Drive, at the extensive alligator cracking of the south 1/3 of the eastbound lane at the location where the eastbound vehicle would have entered into a state of loss-of-control.

Our Lateral and Longitudinal Rotation data does not appear to reveal the aging problem in the eastbound lane because those conditions would not likely cause such rotations. One would have to examine the other data that was gathered but not shown in our database. Thus our testing also determines the tri-axial accelerations and the changes in

angle of the vehicle, either of which might reveal abnormal forces and resultant actions of the test vehicle. However, as mentioned previously, we cannot display all the data that is collected and we have selected the vehicle rotations as opposed to the accelerations and angle of the vehicle. However, we may examine this case more closely and discuss it in a future article, if time permits.

September 11, 2014

Clarke Road – Five Years of Independent Research into Loss-of-Control Events

This fall marks the five year anniversary of our studies and testing on the S-curve of Clarke Road, just north of Fanshawe Park Road in north-eastern London, Ontario, Canada. Although many studies and tests have been performed we focus on the fact that we have monitored the numbers and characteristics of vehicular loss-of-control events on this curve. In a newly uploaded article on the Articles webpage of this site we present the data on the numbers of events that we have documented as well as a discussion of the effects that electronic stability control (ESC) might have on these occurrences.

September 9, 2014

London City Police Cruiser Rear-End Collision – Review of Physical Evidence & Potential Analysis

We have now had an opportunity to prepare a new article, uploaded to the Articles webpage, that discusses a collision we examined a couple of months ago involving a London City Police cruiser that was reportedly rear-ended while stopped at a traffic signal in downtown London. In the article we discuss the physical evidence in detail and then proceed into a detailed discussion of the ways in which the collision could be analysed. We invite visitors to go to the Articles webpage and review the article.

September 3, 2014

New Data on “Bicycle Lateral & Longitudinal Rotations” Now Available on Road Data Webpage

A great deal of testing has been performed by Gorski Consulting in the past year and we are now catching up to the production of summary results and posting these on this website.

The most recent data that has been uploaded to the Road Data webpage is entitled “Bicycle Lateral & Longitudinal Rotations – Summary Table”. This data related to testing that was conducted on Gore Road, just east of Veterans Memorial Parkway, on the eastern outskirts of London, Ontario, on July 18, 2014. In an earlier news item of this News webpage (on July 3, 2014) we discussed a new data acquisition system and this is shown again in the following photos.



Overall view of Trek, 21-speed, hybrid bicycle with the data acquisition system attached.



View of iPhone attached to the Trek bicycle whose app is used to document the bicycle's accelerations, rate of rotation and angle along three axes. Various GoPro cameras document the bicycle's position on the road and the rider's actions.



A simple computer is videotaped with a GoPro camera to document the bicycle's speed, distance traveled and other useful performance data.

The data acquisition system that we developed for the bicycle was intended to gather similar data to the road testing we performed earlier with our 2007 Buick Allure.

This latest bicycle data is the first test of that acquisition system. It includes the lateral and longitudinal rotations of the bicycle in the same way as the rotations of the Buick during our road tests. Thus it is possible to compare the motions of the bicycle to that of the Buick. We also include information about the speed of the bicycle and the distance travelled. Obviously much more information is available that has not been discussed simply because of the large volume of it.

We can summarize to say that, there is a linkage to all this road testing and its results. It provides objective information about the effects of the road system on the traffic units that use it. We have driven over a wide variety of roads under various environmental and surface conditions. We have driven over railway tracks, bridge junctions and incomplete road repairs. And now we have presented data about how a road might affect the motion of a bicycle. All this data is linked by the lateral and longitudinal motions of the traffic unit. So when say that a road has created a certain response we can understand the significance of that response because we have something to compare it to.

We expect to upload a summary article on all this testing sometime in the near future.

September 2, 2014

Motor coach Crashes Suffer From Lack of Compatible Roadway Infrastructure

The most recent crash of an inter-city bus in British Columbia highlights the obvious and inconvenient fact that the safety infrastructure on North American highways is not compatible with buses and large trucks.



View of World Tours bus whose roof was peeled back by its sideways impact with a stanchion on the I-95 near New York on March 12, 2011.

The reality that no one wants to discuss is that almost all roadside barriers are designed for impacts with smaller passenger cars and light trucks and are too low and of insufficient strength to withstand an impact by a more massive and taller bus or heavy truck. The result is that these barriers cause more harm than good as they act as a tripping mechanism that causes these larger vehicles to tip over, resulting more serious consequences.

An example is the World Tours bus crash on I-95 at the Hutchinson Parkway outside of New York City in 2011. There was considerable wonder how a roadside stanchion could penetrate the bus's roof and peel it back almost to its rear. At least 13 people died in that crash. Yet no one mentioned the obvious question whether it was reasonable for the bus to have fallen onto its side before it struck the stanchion. A review of the guardrail on Google Maps would reveal that the guardrail leading up the stanchion was much too low and that this rail simply "tripped" the bus onto its side rather than re-directing it.

The figure below is a view of the guardrail that we copied off the Google Maps site in March of 2011. It is possible to estimate the height of the guardrail by noting the standard height of the metal “W” section and then using that height as a “ruler” to estimate the height from the bottom of the “W” to the ground.



View of guardrail leading up the stanchion struck by the World Tours bus in 2011. By comparing the height of the “W” section to the height below it one can easily see that the guard-rail was too low and caused the bus to roll over it.

Even without attending the site a person could see that the guard rail was low, even for impacts with smaller cars and light trucks. Yet no one in the official news media made comment of that fact.

More recently (July 30, 2014) NHTSA announced the proposal of a new regulation to protect passengers of large buses in rollover crashes. The proposal “...aims to improve the structural design of large buses to ensure that passengers are better protected in a deadly vehicle rollover...”. While such a proposal is needed and welcomed, the flowery propaganda accompanying such announcements is not. For example, the U.S. Transportation Secretary, Anthony Foxx, was quoted as saying “I want passengers to

know that when this Department sees opportunities to make their travel safer so that they can more confidently visit their families or get to work, we are going to do just that...". The inconvenient fact however is that buses and large trucks will continue to be tripped into a rollover by incompatible guardrails and it will be difficult to protect occupants of these vehicles due to the very large mass and associated kinetic energy that must be dissipated if a bus's roof area meets up with a relatively immovable object. The changes needed to deal with this problem would be very costly because such incompatible infrastructure exists on essentially all inter-city roads. However the public needs to be informed of the facts.

In South-Western Ontario there have been many examples of buses and heavy trucks crashing through and being tripped by incompatible infrastructure.

Early in March of 2013 an eastbound truck crashed through the guardrail of Highway 401 and fell into the Nith River between Cambridge and Woodstock, as shown in the site photo below.



Photo taken by CTV news, showing the site where an eastbound transport truck crashed through a guardrail and fell into the Nith River.

Both occupants of the truck perished.

In another fatal collision on August 22, 2010, an eastbound inter-city bus crashed into a barrier on Highway 401 at the junction with Highway 403 at Woodstock, Ontario. The three figures below show the fully-compressed end-treatment to the New Jersey barrier as a result of the bus impact.



View of fully-compressed end-treatment to a New Jersey barrier as a result of the bus impact.



View of the barrier that was fully-compressed by the bus impact.



Top view of fully compressed barrier at the end of the New Jersey barrier.

Although the barrier performed as it was designed it could not manage the excessive kinetic energy of the bus that remained after its full compression. As a result, the bus climbed over top of the compressed barrier and slid along the top of the New Jersey barrier, leaving an oil stain as indicated in the figure below, before falling onto the south side and rolling over.



View of oil stain the New Jersey barrier indicating that the bus slid over top of it before rolling over.

The bus rolled into the south ditch in the area shown in the figure below.



Overall view of south ditch where the rolling bus came to rest. In the background is the end of the New Jersey barrier where the initial impact occurred.

On weekdays at least 50 percent of the traffic on Highway 401 is made up of heavy trucks and buses. Thus the infrastructure for this super-highway is not compatible with about 50 percent of its users and these persons will all be in greater danger because of that reality.

There is no reason to place blame or point fingers but the public that uses this highway needs to be informed of the dangers, much like anyone who takes a drug needs to be informed of its potential side-effects.

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