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JULY 23, 2008

OZAUKEE COUNTY
TRAFFIC SAFETY COMMISSION MINUTES

Chairperson Fran Meyer called the meeting to order at 9:03 a.m. at the Ozaukee County Justice Center, Room 16.

MEMBERS PRESENT:

Chairperson Fran Meyer, Lt. Cory McCormick, Ozaukee County Sheriff, Chief Steven Graff, Mequon Police Department, Bob Dreblow, Ozaukee County Highway Commissioner, Jon Garms, Mequon Director of Public Works, Trooper Robert Simpson, David Brantner-Wisconsin Department of Transportation, Jean Clement, Citizen, David Albert, Citizen, John Holicek, Ozaukee County Coroner, Jennifer Rothstein, County Board Supervisor

Not present: Ozaukee County Corporation Counsel Dennis Kenealy, Michael Panosh, Wisconsin Department of Transportation, Barb Aagerup, Citizen.

Chairperson Meyer asked if meeting was properly noticed. Lt. McCormick advised that the meeting was properly noticed.

GUESTS:

Sgt. Tim Huibbregtse-Wisconsin State Patrol, Dawn Fraunforth, Citizen

APPROVAL OF AGENDA:

Meyers, amend the agenda to reflect that citizen would like to speak. Lt. McCormick moved that the agenda modified. All affirm.

Dawn requested having the commission take action on STH 60/CTH Y. Requests possible signals, lower the speed limit.

Lt. McCormick notified in March regarding this intersection. He researched past crash statistics. STH 60 and CTH Y is a four-way intersection that has a north/south stop signs. There is clear visibility to the east and west for vehicles at that stop sign with a flashing overhead light. The issues that we have identified at that intersection come from people either running the stop sign or failing to yield the right of way. The issue itself is a driver issue, not so much a design and/or physical lay out. Updated surveys, and then looking at my prior surveys and recommendations, I do not find anything at this point that has changed throughout the history of the intersection. The summary of the 1995 thru 2000 survey and also from the 2008 survey. It shows that the numbers are fairly consistent. It was found in 2000 that there would be no action taken on the intersection based on the numbers that were presented. The 2002-2008 survey mirrors the same one. If we use the same logic, there is to be no action to be taken at this point. However, there will be given to the committee for discussion for review.

Discussion.

Meyers, look into having snow fence extended on STH 60. Have DOT and Highway Department to review possible corrections to the intersection. Will forward their information to Dawn Fraunforth.

APPROVAL OF MINUTES:

Correction: Trooper Simpson was not at last meeting. Jon Garms motion to approve the minutes as corrected, Clement second, all aye.

COMMUNICATIONS:

Meyers, introduce new member to Traffic Safety Commission, Jennifer Rothstein-County Board Supervisor

TSC ELECTIONS:

Election of chairperson for Traffic Safety Commission.
Brantner nominates Fran Meyers for chairperson, Garms second, all aye.

SPEED LIMIT ON CTH NN/SHAMROCK LANE AND KAEHLER MILLS:

Lt. McCormick stated that the request came to him via telephone call through Mr. Thelen,
1750 CTH NN. He is aware of the traffic safety committee and the speed limits through that area. He was asking to bring it up at the meeting for discussion to relay his concerns; he feels confident that there would be no action taken; however, he felt that he needed to go through this process.

The argument that was presented to Lt. McCormick was that Mr. Thelen owns the piece of property that is on the curve on CTH NN. He feels that he is unable to use that property due to the vehicles and the potential for crashes coming through that area. He feels that when he is on the property itself, he is in danger of vehicles coming through the area and requested that we lower the speed limit through that area to a maximum of 35 mph.

Lt. McCormick explained to Mr. Thelen the recent history of that area and the TSC discussion regarding the speed limit.

Had prior discussions concerning the lowering the speed limit on CTH NN where the Commission decided that lowering the speed limit is not warranted.

Lt. McCormick will contact Mr. Thelen as to the Commission's discussion where Mr. Thelen will take it to the next level.

No action taken.

FATAL ACCIDENT REVIEW:

Fatal accident on I43 and Grafton on 11.23.07.

Lt. McCormick stated that throughout the investigation, there were at least six (6) troopers involved with the crash reconstruction unit from the Wisconsin State Patrol who assisted the Sheriff's Department with this investigation. Sgt. Huibregtse who supervises that unit for this area and I would like to pass my commendation for the work product of these gentlemen; they are outstanding to work with and they are exemplar to the crash reconstruction field. They did an outstanding job.

The crash itself occurred on 11.23.07 on I43 .2 of mile north CTH C, town of Grafton. In that crash there were a total of three (3) fatalities and three (3) severe injuries; it involved two (2) vehicles. The point of discussion of this crash absent the lost of life, was the cable barrier system that had been placed in this area to prevent this type of crossover crashes this one was perceived to be.

The area itself of the interstate is divided by a grass median approximately forty-five (45) feet wide; it has interior gravel shoulders on both sides, approximately eight (8) feet in width. A total distance about 61 feet between two paved surfaces.

The low tension cable barriers system is installed in the median approximately 22 feet from the left edge of the inside traffic lane on the northbound side. In other words, it's a little offset in this area.

The individual traffic lanes are approximately 12 feet wide and the paved surfaces extend past the fog line approximately 8 to 10 feet with a 3-4 foot gravel shoulder.

Post collision: The crash scene was actually documented through the use of a Total Station from the troopers and also through photogramitery through the Sheriff's Department which is the use of picture taking measures.

The vehicles involved: The first one was a 2003 Mazda Protégé; this was the vehicle in which the four teens had occupied. Post collision: The front of the Protégé sustained front end damage and rearward displacement, in other words, the vehicle hit head on to something causing damage to it. Also found were numerous scratch marks across the vehicle's roof and trunk indicating the vehicle under riding the cable barrier system.

The front seat belts were taut at the posts as a result of the pre-tensioners having fired prior to the air bag deploying. This is indicative of the front passengers of the vehicle not wearing their seat belts. Post collision inspection also revealed that the rear seat passengers were not restrained given the impressions into the back of the front seats from those occupants moving forward post collision.

The vehicle, at the time, there was a great deal of discussion about the front tires of this vehicle; that being a factor to the crash. Both tires were extremely worn; virtually no tread left on the outside edges. The outer edge of the right front tire was worn to the point of having the cords exposed around the entire circumference. There were also indications that the tire had been patched twice, which nowadays, it is something that is not done. If tires are punctured or so forth, they are now replaced. They are finding that the patches are weak and have a tendency to blow. However, the tires were taken to Firestone Tire dealership in which they were inspected. The gentleman that did the inspections indicated that there were no indications of a blow-out or a rapid air loss. He did indicate that tires in this condition would slowly loose air; however, a blow-out was not a cause of this crash.

The collision sequence itself: The Protégé was traveling southbound on I43 and it was in the inner most lane, Lane #1 or the passing lane, left lane of the southbound traffic. The vehicle started leaving tire marks in the right hand lane. What that means that the vehicle was straddling the center line when it began to leave tire marks. Based on the tire marks, it was evident that the vehicle was rotating in a counter clockwise manner, and then, went to the left into the median, through the cable barriers and then struck the northbound vehicle.

The software that the troopers had available to them, they were able to take all this data and plug it into the software and, what it was able to tell them, that based on the angles of the vehicle travel, the tire mark, the arch degrees etc. The vehicle actually started out on the gravel portion of the inside lane. The vehicle traveling southbound in the left hand lane, drifted to its left on the gravel, corrected, came to the right, came back, over corrected which started the counter clockwise rotation which is why we find our first tire marks in the right lane, or Lane #2. So although this vehicle was traveling in the left, the first tire marks are in the right lane based on this correction and over correction.

Ms. Meyers inquired about the condition of the tires. Lt. McCormick stated that it made absolutely no difference of the condition of the tires.

The other vehicle was 2003 Chevrolet Blazer that was traveling northbound. With the vehicle, it was new enough to have an ECM (electronic module-black box). It's the data that can be downloaded so that information can be retrieved.

This data was downloaded from the vehicle, and what was found that the vehicle was traveling at a steady rate. We have five (5) seconds of data pre-collision. We found that the vehicle was traveling at 72 to 73 mph northbound on I43.

At approximately two (2) seconds immediately prior to the crash, it is when the vehicle started to apply braking and started to slow down dramatically. What this tells us is that the driver saw the Mazda coming and in an attempted to avoid the collision or mitigated to some degree.

Based on the download from the vehicle, we know that the collision speed of the SUV was approximately 55 mph. The SUV slowed down 18 mph pre-collision leading into the crash.

Using that information, they were able to extrapolate backwards to try to get the speeds from the Mazda Protégé. The Mazda Protégé in order to leave the tire marks, the damage that it caused, was traveling between 58 to 69 mph from the start of the visible tire marks. However, taking that information, and now going back to the software that was used in order to place that vehicle on the left hand shoulder. With confidence, the vehicle was traveling 70 mph southbound when it went onto the shoulder and then corrected and over-corrected.

SUV going northbound 73 mph and a 70 mph southbound Mazda.

The highway factors listed the area itself has a traffic count at approximately 23000 vehicles per day. The troopers also reviewed the original set of plans for construction of I43 from 1967 and the most recent resurfacing at the crash scene which was from 1997. When comparing the independent survey data and the analysis of the roadway design characteristics, it appeared that the section of roadway meets the construction design standards that were set forth in the Wisconsin Standards. According to the same standards the combination of 74 feet median width and the average daily traffic count of 23000 of this section of the interstate, did not even warrant the median barrier treatment which had been discussed by the Committee in the past.

The cable barrier system itself is a low-tension cable barrier. Which means that it is designed to "give" where as other systems that we see in the counties are high-tension systems. A couple differences between low tension cable system is that the low cable system is designed to actually entrap or ensnare the vehicle where the high tension system has proclivity to actually move the vehicle back into the traffic lanes.

The Highway Shop has been trained in the care and tensioning of the cable system in which they do at intervals. It was found that our cable system in that area was tensioned in October 2007, so approximately month to a month and half before the crash. There were not reported hits to that cable system in that area.

The system in the area is placed offset to the median center. It's approximately 22 feet from northbound traffic lanes. The placement of the system in the median of the crash is determined to proper and in accordance to the most current guidelines available.

There were a few discrepancies that were found: The cable heights and the line posts north of the displaced post there 24, 28 ½ and 33 inches high. The measurements are uniformly 3 inches higher than the original project plan specified. The line post was intact and located immediately north of the breach location and likely received a significant upward force during the under right sequence. The posts that were measured where the ones that were still standing that they were to the north of the impact area. It is believed that the 3 inch variance was caused by the vehicle actually under riding the system, lifting the cables up causing the posts to lift out of the ground.

Variables such as ground saturation, temperature could avert the vertical displacement of the posts during the impact. Cable height: examination of the cable height throughout the system indicate general uniform cable height as specified in project plans. Most probable that the heights were in conformity at the time of the event.

Line post spacing: 19 feet was identified north of the penetration. This is not in conformity of the project plans. They require a post spacing of 16 feet. The adjoining systems were checked for damage and showed to be in the recommended range.

The damaged system was probably within the recommended tension range at the time. Consultation with the industry expert indicates 19 foot spacing would not adversely affect the systems performance.

The posts were set at 19 feet; specs stated they should be at 16 feet. However, when they went back to interviewed a gentleman who is an expert in this, he stated that it would not of made a difference; the 3 feet variance had no impact.

October 2007: The posts were properly tensioned.

The cable system itself was designed based on statistics from around the nation. What was found that the vast majority of crashes that involved median crossovers: the vehicles left the roadway at a 20 degree angle to the roadway itself.

The cable system was designed to capture these types of the vehicles. However, the cable system was also known not to be 100% effective. The cable system nationwide has a 97% success ratio in capturing these vehicles. And when we went through the history, we found that is exactly where Ozaukee County is right at 97%. But, in keeping in mind this 20 degree angle leading into the cable system. As I stated before, the vehicle, the Mazda, was traveling in the left hand lane, went to left, came back to the right, over corrected, began to turn counterclockwise, and then went into the cable barrier system.

Given all those variables, with the rotation and the angle that it went in, the vehicles approaching the angle to the barrier system was no where near 20 degrees. It was more towards to 90 to 100 to 110 degree.

This cable system was not designed to stop vehicles approaching at that angle.

The way the vehicle entered the cable barrier system, the cable barrier system was not likely to have stopped the vehicle even if the vehicle would not have under ridden the system. However, that is what the vehicle did.

In the research going through the crash investigation, what was found that when the vehicle started its counterclockwise spin, you have a weight shift on the vehicle. The vehicles' weights on its center of gravity and its axis, was not shifting towards the passenger side of the vehicle. As the weight shifts, the passenger side of the vehicle begins to dip. The vehicle is has it's right front corner is now lower than its normal operating height. The barrier system that is put in, and it's been there for some time, there is no taking into account the **degergation** of the ground underneath; however, we have the weight shift of the vehicle and plus we have the furrowing of the front end into the ground was enough to have the right front corner of that vehicle underneath the bottom cable. And that is why it under rode the cable system itself.

As the vehicle came into contact with the cable system, the bottom cable came onto the hood of the vehicle and acted just like a ramp going up over the top of the vehicle.

The barrier system itself did not provide any assistance in stopping of that vehicle from crossing over.

This is a brief synopsis of the crash from November 2007.

We did attempt to get data downloaded from the Mazda Protégé; however, Mazda Corporate Offices have not been cooperative in getting the data. As of this date, we still haven't received the data.

The Troopers did a very thorough job in what they were doing. I agree 100% with their conclusion; they did an outstanding job.

Discussion.

No action to be taken.

STATE REPORT:

David Brantner: DOT stated that the STH 33 resurfacing project from CTH O to CTH Y is close to be finished.
Change in operation to the signal to the southbound ramp I43 and Mequon Road. Pavement markings and changes are made to the signage.

Bob Dreblow: We have set plans for Wauwatosa Road concerning two roundabouts at Bridge and Western.

LOCAL REPORT:

Bob Dreblow advised that Pioneer Road from Green Bay Road to Port Washington Road is still in progress. Signal at Port Washington Road/Pioneer is camera activated.

EDUCATIONAL ARTICLE:

Lt. McCormick included in the packet was an article from the DOT. Seatbelt use in pregnant women and the proper usage, and work zone slow down areas.

DVD has been provided to me by the Highway Commissioner concerning speeds in work zones for training.

Ms. Clement moved to adjourn, Lt. McCormick second, all aye.

Meeting ended at 10:25 a.m.