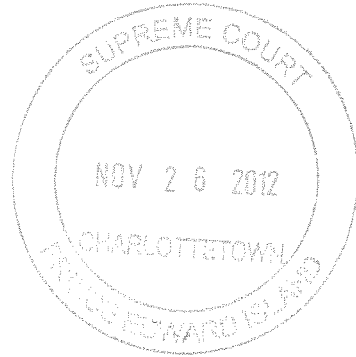


EXHIBIT NO.  
CASE NO.  
DATE:

C-2  
SI-6C-965  
Nov. 30/12  
BA



**REGINA V. MOASE  
IMPAIRED DRIVING CAUSING DEATH  
POLICE FILE 2012872043  
CHARLOTTETOWN RCMP**

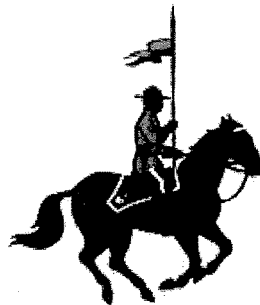
# Technical Collision Investigation



## **Fatal Motor Vehicle versus Cyclist Collision**

2012-07-14 @ 18:03 hrs  
Route 13, Rennies Road, Queens County  
Province of Prince Edward Island

**RCMP File: 2012-872043**



***Report Prepared By:***

***Cst Thane L. MacEachern Reg # 40564***  
*Collision Analyst, "L" Division*  
*Prince Edward Island*



**COLLISION ANALYST SUPPLEMENTAL REPORT**

Collision Type:	Requesting Detachment
Fatal	Queens District
Collision Analyst File #	Detachment File #
	2012872043
Collision Analyst	Officer responsible for file
Cst. MacEachern	Cst. Chartrand

COLLISION DETAILS:								
Occurred	On Highway		At or near			Province		
2012-07-14	Route 13		Rennies Road			PEI		
GPS Location	Latitude		Longitude					
Time of Occurrence	Analyst					Unit		
1803	Cst. Thane L. MacEachern					Kings District RCMP		
Investigated on	Accompanied by:					Unit		
2012-07-14	Cpl. Scott Stevenson					L Division FIS		
Arrival on scene	Weather/Light/Road conditions							
	24 Degrees, dark cloudy haze, bare dry road surface							
VEHICLE ONE:				VEHICLE TWO:				
Year	Make	Model	Colour(s)	Year	Make	Model	Colour(s)	
2008	Chevrolet	Express	Brown		CANNONDALE	T800	RED	
VIN	Plate #	Prov/State:		VIN	Plate #	Prov/State:		
1GCGG25CX81152804	UR 981	PE		N122568				
Location when examined				Location when examined				
AT SCENE				AT SCENE				
COLLISION SCENE:								
Type of Roadway	# of lanes	Area location						
Arterial	2	Rural Farm and Residential						
Surface			If other specify	Describe for drag factor				
Asphalt								
Drag Factor	Level	Hill Top	Straight	Grade (+/-)	Grade Direction	Superelevation	Speed Limit	Posted
	Sloped	Hill Bottom	Curved				80	Yes
CIRCUMSTANCES / ACTION TAKEN								

On July 14, 2012 I was dispatched to the scene of a fatal motor vehicle collision near the community of Rennies Road, PE on Route 13. I arrived at the collision scene and was joined by Cpl. Scott Stevenson, L Division Forensic Identification Section.

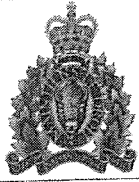
Cpl. Stevenson walked me through the scene as he had found it. He had already started to record the scene with his camera equipment, as such I did not find it necessary to do the same. The deceased in this collision was a 63 year old female cyclist. She was still present on the east side of the road where other motorists and paramedics initially came to her aid. Her cycle and personal items were reported to me as undisturbed post impact. Cpl. Stevenson reported to me that a 2008 Chevrolet Express cargo van parked on the west side of the road facing south, with damage to the right front quarter was the vehicle that had collided with the cyclist.

Route 13 at this location runs north and south with a grade of less than 2%. It is a asphalt paved, two lane provincial highway. This route is one of busiest provincial routes in PEI during the summer months as it leads to the PEI National Park, and the tourist community of Cavendish. The road at this location was in excellent condition, bare and dry. Painted yellow and white lines were very visible. There was no paved shoulder to the right of the painted white fog line on this highway, just compacted dirt and gravel. The section of road where the collision occurred is a long straight section with no view obstruction due to the topography for over 1500 meters.

Diary Date	Signature	Date Sent to Detachment
	Cst. T.L. MacEachern	2012-10-01

Distribution: 1) Detachment 2) Analyst File 3) Sgt. For Traffic Services  
RCMP-GRC 3011 (2010)(FWS)

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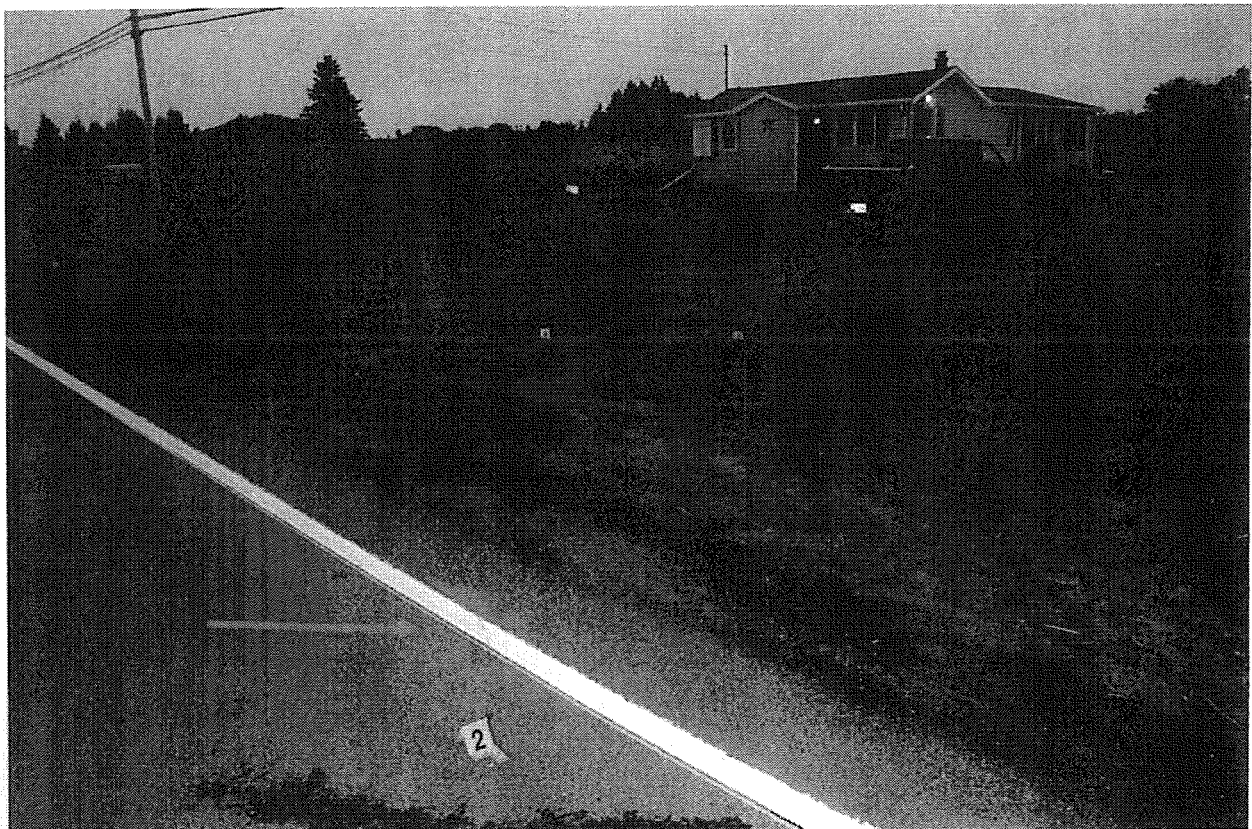
Weather conditions were excellent. It was 24 degrees, high humidity, with a dark cloudy haze threatening rain. The sun would have been sitting to the left of a north bound driver, but due to the cloud and haze, it was barely visible.

With assistance from Cpl. Stevenson, I conducted baseline/co-ordinate measurements of key points in the collision scene, and I examined both vehicles.

**Scene Observations:**

When I arrived on scene, there had been several police vehicles parked on what I considered key portions of north bound lane. I directed those vehicles moved out of the way.

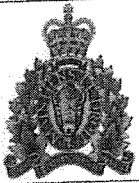
There was no obvious evidence in the north bound lane that any vehicle had braked, steered, or accelerated leaving tire mark evidence on the road surface in the area leading to where the deceased and her cycle had come to rest. I did locate a small black tire scuff mark, approximately 68 cm in length, leading off the asphalt road surface, across the white fog line near the driveway of 4760 Rte #13.



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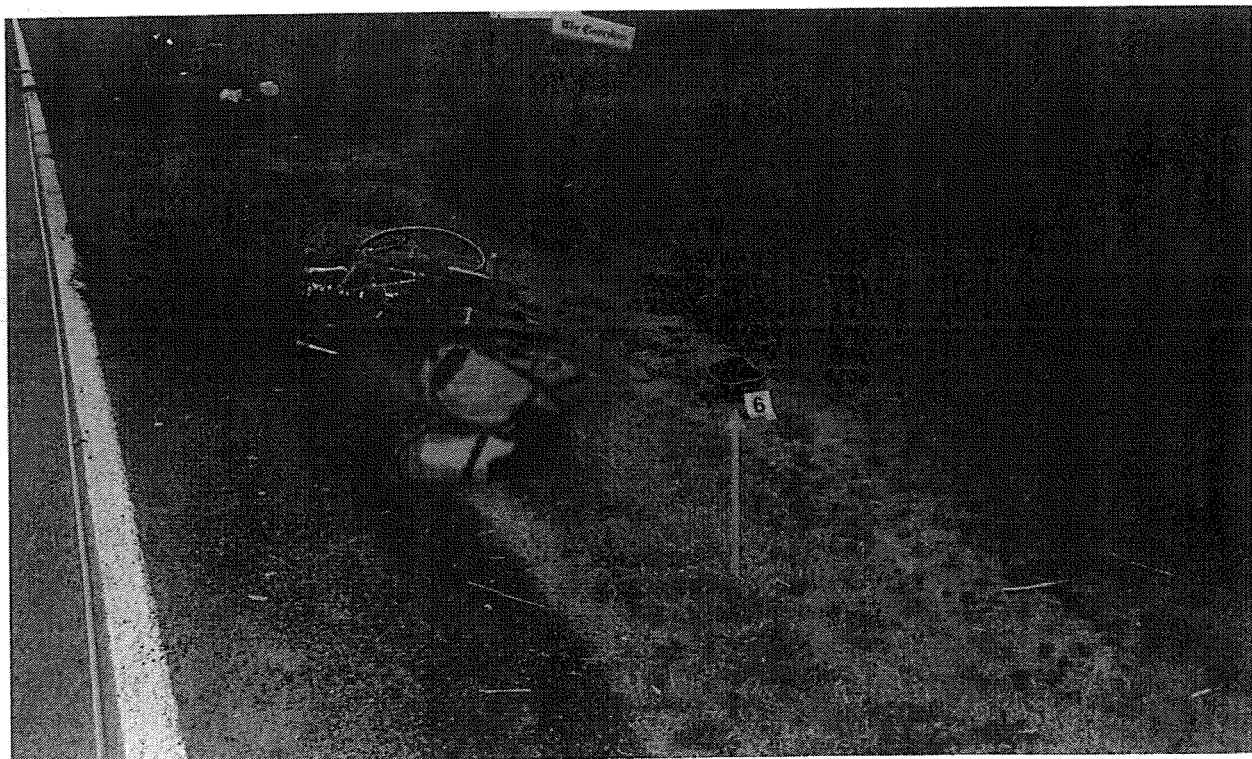
	<b>COLLISION ANALYST SUPPLEMENTAL REPORT</b>	Collision Type:	Requesting Detachment
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That particular tire mark was consistent with a bicycle tire being dragged across the asphalt road surface

My road surface exam failed to identify any evidence of where the cyclist had made contact with the road surface after leaving her cycle. I located several pieces of bicycle parts, sunglasses, gouges from the ground, but none of these points had any evidentiary value in determining exactly where impact had occurred with the Chevrolet Van.

The only other remarkable road evidence was located in the north bound lane, approximately 8 meters south of the tire mark. I located a faint line of red dirt and green vegetation/seeds. It was remarkable due to fact that this road is well travelled, and there was no other similar dirt pile on the road. It has been my experience when a vehicle collides with an object, any accumulated debris that rests inside bumper covers, on cross members, in wheel wells, will be jarred loose and fall to ground. Evidence like this does not last long, and is easily destroyed by passing vehicles and first responders.

The last recorded observation was the location of a single headlight assembly located on the north bound lane shoulder near the deceased bicycle. That headlight assembly was the same color, and shape as the remaining headlight assembly on the Chevrolet van parked close by.



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**Vehicle Observations:**

Vehicle #1 is a 2008 Chevrolet cargo van. The van was parked on the shoulder of the south bound lane, facing the area of impact, approximately 30 meters north of where the deceased came to rest. This vehicle was damaged on the front right quarter. Damage included a missing headlight assembly, scratches on the bumper cover, bent metal engine hood, and metal right front quarter panel.

Right side rear view mirror housing was cracked, and the windshield had a small contact fracture below the wiper blade. I cannot with any certainty relate the damage to the mirror housing and the windshield to this particular collision under investigation.

The front bumper cover was very dirty with insect debris, except for an area to the extreme lower right side that had been "wiped" clean and had several fresh gouges and scrapes in the black plastic bumper cover.

Other than the recorded damage, the exterior of this vehicle was unremarkable. It had a matched set of Michelin LTX light truck tires, all were inflated, and had good visible tread depth.

I climbed inside the van, and sat in the driver's seat. The windshield and side windows had no driver view obstructions. The interior of the van was littered with tools, documents and empty soda pop bottles. There was nothing in the driver's foot compartment that would have interfered with normal driving movements required for braking and accelerating.

Vehicle #2 is a Cannondale T800 Touring bicycle. This bike is a high end touring product, offers the rider a very stable, comfortable vehicle, even when loaded with pannier bags. This bike was loaded with detachable pannier bags on proper metal frames attached to the cycle.

The rear wheel of the bike had been sheared, with a 14 cm section of the wheel sheared completely away from the remainder of the metal wheel and pushed inward towards the centre hub, but still attached to its related spokes. The tire tube had an 8 cm gash in the same general area as the sheared wheel. The rubber tire appeared undamaged.

The left rear seat stay, which is a metal frame component running between the wheel and the main top tube of the frame on an angle, was bent forward and downward.

The driver's saddle had been ripped off its metal frame, and the metal saddle frame had rotated clockwise. The seat tube, was bent forward from its normal position by an estimated 20 -25 degrees, so that it now sat virtually at 90 degrees from level ground.

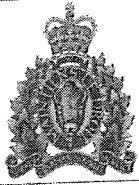
Rear pannier frames were pushed forward and bent with a slight clock wise rotation

There was no evidence of the bicycle being subject to any downward crush damage, which would be consistent with the bike being on its side and driven over.

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**Analysis / Interpretation:**

In this particular investigation, there was no evidence present that would allow me to conduct a calculation for speed at impact.

The 2008 Chevrolet Express is equipped with an advanced Event Data Recorder, but when I searched the recorder memory with my CDR software, there was no recorded event present. This is not surprising, given that from the perspective of the accelerometers in the van that measure sudden changes in velocity; this collision may not have registered sufficiently in order to "wake up" the Airbag Control Module and start a decision making event (i.e.: to deploy air bags, or not)

The damage observed and recorded to the bicycle was consistent with the driver of the cycle being seated in her saddle, and the bicycle moving forward at impact.

The damage observed and recorded on the Chevrolet cargo van is consistent with colliding with the cyclist and her bicycle. The flat nose design of the Chevrolet Express cargo van is not particularly forgiving when a pedestrian or cyclist collision occurs, as the blunt face combined with the mass and velocity of the van causes any smaller object struck to be almost instantly projected forward at the same velocity that the van would be travelling at. This is opposed to current passenger car design that allows for an adult sized pedestrian or cyclist to be lifted up onto the engine hood of the vehicle before leaving for ground.

In this particular case, there is evidence that the cyclist would have been struck by the area surrounding the headlight assembly, right bumper panel, while her cycle wheel, left seat stay, and pannier frame would have been struck by the lower front bumper portion of the Chevrolet van.

The cyclist in this case would not be able to maintain vehicle control after impact due to the damage to her rear wheel, and the velocity attained in the impact would be carried down during her fall to ground. This would be a catastrophic impact with the ground.

In this crash there is no evidence that the Chevrolet van struck or rolled over the cyclist or her bicycle after the initial impact.

As in any crash locating the area of impact can be crucial, and especially in this case. My observations of the small dirt debris field and how it related to the tire scuff located on the north bound lane certainly corroborate each other to give me a general area of where impact occurred. I can say with certainty that the cyclist and cycle impacted the extreme right bumper of the Chevrolet van. These observations tell me that the Chevrolet van was in the north bound lane occupied by the cyclist at impact. To reconstruct the exact location of both traffic units in the north bound lane at the time of impact would be impossible with the physical evidence remaining at the scene.

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**Conclusion:**

This traffic collision occurred in the north bound lane, on a bare, dry rural two lane highway. Visibility conditions for all road users were unrestricted. North bound vehicle traffic would be prohibited by law from over taking and passing another motor vehicle in this particular section of highway due to the yellow line configuration present, but there was ample room for a motor vehicle operator to safely overtake and pass a slow moving cyclist without fear of colliding with oncoming motor vehicle traffic, or even the fear of being subject to law enforcement action.

During the summer months, such a driving situation is encountered daily by this highway's users and a reasonable and prudent driver can routinely operate their motor vehicles around slow moving cyclists without the tragic consequences present in this case.

I observed no issue with the road surface at or near the general area of impact that would have caused either vehicle operator in this collision to have taken an evasive steering action, placing their vehicles on a collision course out of necessity.

I observed, nor identified no pre-existing mechanical condition with either vehicle that would have caused these two vehicles to be unintentionally placed in a course of collision.

In this particular case, the cyclist took precautionary steps to ensure she was conspicuous to motor vehicle traffic by wearing a reflective yellow safety vest, even in this daylight driving situation.

With all the physical evidence present, the crucial question here would be why the driver of the north bound Chevrolet van did not make the required braking or steering inputs to avoid colliding with the cyclist that would have been clearly visible to him on the road in front of him. By traffic law (Section 194 PEIHTA) in this province and the practice of driving courtesy in North America, the cyclist was owed the right of way.

Based on the physical evidence, it is my opinion that the driver of the Chevrolet van was not operating his vehicle in a reasonable and prudent manner, whether due to distraction, lack of skill, or physical impairment, and caused this collision.

Appendix A: Rough Sketch

Appendix B: Measurement log

Appendix C: Nomenclature Generic Touring Bicycle

Peer Review Conducted by: Cst. Frankie Stevenson, RCMP Collision Reconstructionist, L Division

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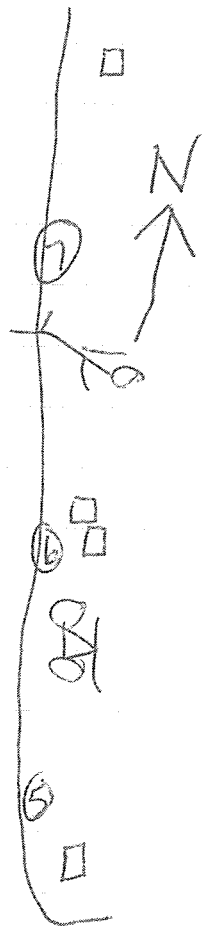
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SW

Est. W. Eastern  
2012-07-14  
2010  
Rte 15 @ 4760  
Cpl. Stevenson Asst.



①

"0"  
RP

④ 4760  
③ DW

○ 2/Pok  
RP 19

**ACCIDENT INVESTIGATION FIELD NOTES**  
**ENQUÊTE SUR UN ACCIDENT - NOTES PRISES SUR LES LIEUX**

File No. - N° du dossier 2012 872043	Total Pages Pages totales
-----------------------------------------	------------------------------

Reference Point - Point de référence Pole 2/19 Near 4760 Rte 13		Vehicle Description(s) - Description du/des véhicule(s)	
Reference Point - "O" - Point de référence "O" Spike on fog line		1	CHEV EXPRESS Cargo "DR 981"
Base Line - Ligne de base 52 M running south to North		2	1GCGG25CX81152804
Location - Endroit Rennie's Road Queens County		3	Cannondale T800
Date 2012-7-14	Start Time - Heure du début 1945	4	N112568 Gear U/K
Investigator - Enquêteur Cst. T.L. MacEachern	Finish Time - Heure de la fin	Road, Weather and Lighting Conditions État de la chaussée, conditions atmosphériques et visibilité +24 Cloudy Haze High Humidity Road Bare Dry	
Assisted By - Aidé de CPL. STEVENSON		STRAIGHT W GRADE	

EAST EST	WEST OUEST	NORTH NORD	SOUTH SUD	DESCRIPTION
				A
9.80	8.80	2.77		B
7	1.42	1.21		C ID#1 DIET
	.34	9.07		D ID#2 TIRE SQUEEZE .68m long
5.00		17.5		E ID#3 SUN GLASSES
3.62		13.8		F ID#4 AXIOM PAWNIER LABEL
2.20		23.22		G ID#5 GRASS DIVOT
2.12		33.75		H ID#6 Headlight Assembly
1.45		34.9		I BIKE Front Center HUB
1.48		35.46		J BIKE Rear
.57		49.04		K VICTIM Head
				L Road Width 7.50
				M Lane Width 3.77
				N
				O
				P
				Q
				R
				S

