

Spectrum Engineering Group, LLC
Consulting Engineers

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Michael F. Miller, D.E.
Dr. Frank E. Watkinson
Richard A. Ziegler, D.E.
Michael A. Cei

July 29, 2004

Fallon, Sullivan, Dunphy & Mulvaney
115 State Street
Springfield, Massachusetts 01103

Attn: William E. Fallon, Esq.

Re: Motor Vehicle Accident
Kevin Pecor – Johnny Martinez – Patrick Vassallo
January 13, 2003 – 6:26 PM
Location: Amostown Road, West Springfield, MA
Our File: 04141

ENGINEER'S REPORT OF INVESTIGATION TO DATE

Dear Attorney Fallon:

As you are aware, I have been conducting a technical investigation into the above-captioned motor vehicle accident. In keeping with recent instructions, I am providing this Report of Investigation to Date.

During the course of my investigation to date, I have reviewed a variety of materials including the Police Accident Report, police diagrams, police measurements, and police photographs. I traveled to the accident scene under daylight and night conditions, taking measurements and photographs. The available sight line, lighting, roadway configuration and posted speed limits were examined.

I reviewed published manufacturer's specifications for the involved vehicles, audio tapes from the West Springfield Police phone lines, and other written documentation provided to me.

As a result of my investigation to date, the following conclusions and opinions have been formed:

1. The accident occurred on Monday, January 13, 2003 at 6:26 PM. Published weather records by the National Oceanic and Atmospheric Administration for the day of the accident indicate broken clouds with good visibility and air temperatures around 30° F. The police report indicates the air temperature was 25° F. No precipitation is reported at the time. Records indicate that sunset occurred in West Springfield at 4:41 PM, with civil twilight ending at 5:11 PM. 80% of the moon was illuminated. It is concluded that the accident occurred under nighttime conditions, and that climatological conditions that were prevailing at the time were not contributory to its occurrence.
2. The accident involving Kevin Pecor, Johnny Martinez and Patrick Vassallo occurred on Amostown Road just west of the intersection of King's Highway in the town of West Springfield, Massachusetts. In the area where the accident occurred, Amostown Road ran in a generally east-west direction, with one eastbound and one westbound lane divided by a painted double yellow centerline. White fog lines were painted along the north and south edges of the road defining the limits of each travel lane. The road was surfaced with bituminous concrete in good condition with no obvious defects or deficiencies. In the immediate accident scene area the road varied in overall width from approximately 27 to 29 feet (without snow). The westbound travel lane of Amostown Road in the area of the accident (from the centerline to the white fog line) was approximately 13 feet in width (without snow). There was a small upward gradient (approximately 3.5-4%) for westbound traffic, and the posted speed limit was 30 miles per hour.
3. Examination of the scene under full nighttime conditions revealed that portions of Amostown Road and King's Highway were supplemented with artificial illumination from street lamps mounted on utility poles off the edge of the road. The closest pole-mounted street lamp was mounted on utility pole WME CO 14-1 located off the north side of the road approximately 15 feet east of the painted white stop bar on Amostown Road and near the intersection of Amostown Road and King's Highway. It appeared during my night examination and light meter testings that this street lamp was a high-output sodium vapor light.
4. Prior to the occurrence of the accident, Kevin Pecor was operating a bicycle westerly on Amostown Road. According to the police report, his bicycle was a 26-inch Huffy Gila DS mountain bike, green in color with blue forks.
5. Prior to the occurrence of the accident, Johnny Martinez was operating a 1996 Honda Civic, color red, westerly on Amostown Road approaching Kevin Pecor from behind. Wendy Nieves and Yesenia Santos were passengers in his vehicle. Published manufacturer's specifications for this vehicle indicate an overall width of 5.58 feet, an overall length of 14.58 feet, a top front bumper height of 20 inches and a center headlamp height of 24 inches.
6. Prior to the occurrence of the accident, Patrick Vassallo was operating a 2002 Ford Focus westerly on Amostown Road behind Johnny Martinez, with no

passengers. Published manufacturer's specifications for this vehicle indicate that it also had an overall width of approximately 5.58 feet, and an overall length of 14.58 feet. The top front bumper height was 22 inches, and the center headlamp height was 27 inches above ground level.

7. Following the accident, the West Springfield Police Department conducted an investigation which included the documentation of evidence through on-scene photographs and measurements. Diagrams of the after-accident scene evidence were also prepared. The coefficient of friction of the road surface was also measured with a drag sled. During the course of my investigation to date, these materials were reviewed to conduct an analysis of what the evidence revealed as to how the accident most likely occurred.
8. As part of their investigation, the West Springfield Police Department took a statement from Johnny Martinez as to how the accident occurred. According to this statement he told police he had just dropped off his mother at Bay State Hospital and was trying to fix the window from his car. He decided to go to his grandmother's house in West Springfield to fix it. He turned left onto King's Highway and then bore right onto Amostown Road when he observed Kevin Pecor on his bicycle on the right side of the road. He went to go around him; he stated Kevin Pecor started to go to the left lane and his car hit him. He stopped on the right side of the road when another car behind him, he believed, struck Kevin by driving over him. This second vehicle stopped behind him, almost hitting him. He then blocked the street with his car until the police arrived; he had called the police on his cell phone. He stated that when he was trying to pass Kevin Pecor on his bicycle he was going about 20 to 25 miles per hour.
9. Passenger Yesenia Santos gave a statement to the police in which she indicated that there was a snow bank on the passenger side of Amostown Road, and it was "out to the street." She observed Kevin Pecor on a bicycle on the same side and when they "went to move around the snow bank" and not be close, Kevin went to cross the road; that's when the accident happened. She stated that Kevin Pecor could hardly be seen because he had on a dark jacket. After the collision, they stopped the car, and the car that was behind them ran over Kevin and almost struck them from behind. At the time, Yesenia Santos was sitting in the rear passenger side.
10. Passenger Wendy Nieves gave a statement to the police in which she indicated that she was a passenger in Johnny Martinez's car traveling west on Amostown Road en route to his grandmother's house when she observed Kevin Pecor on his bicycle. Johnny Martinez went to the left side so he wouldn't be close to the bicycle; she stated Kevin Pecor then "moved the same way and the vehicle struck him." They stopped the car; the next car behind them ran over Kevin and then almost hit them. She was seated in the front seat, passenger side at the time.

11. The operator of the second vehicle, Patrick Vassallo, gave a statement to the police in which he indicated that prior to the accident he had just turned off of Elm Street onto King's Highway heading west. He then proceeded to take a right onto Amostown Road and shortly after turning noticed a bicycle on the right side of the road. He swerved left thinking someone could be on the bicycle, and at that point felt something under his car. He looked up and saw a red car in front of him "come to a stop" and had to press firmly on his brakes to avoid hitting it. He got out of his car to see what he had hit. He did not observe the person in the road as his attention was on the bicycle along the side of the road. He believed he was traveling 30 to 35 miles per hour. He believed the red car was four to five car lengths in front of him when the accident happened. He observed the red car "swerve" and then saw the bicycle on the side of the road.
12. Operator Tina Wood, a witness who had been traveling in the opposite direction easterly on Amostown Road gave a statement to the police. In this statement she indicates that while traveling easterly on Amostown Road approaching the intersection and stop sign at King's Highway she noticed Kevin Pecor on his bicycle traveling westbound about 2 feet away from the side of the road. The Johnny Martinez vehicle was approaching her traveling westerly and as their vehicles passed each other she heard a "thud." She looked in her side mirror and "saw the biker hit by the red car near the center . . ." At first she believed the thud may have been the red car striking her bumper, attempting to swerve and avoid Kevin Pecor. She moved slightly, a few feet forward, and was still traveling toward the stop sign when the second car operated by Patrick Vassallo approached. Kevin Pecor was lying across the center double yellow lines. She did not notice any movement, and the second vehicle ran over him. She stopped her vehicle near the stop sign and called 911. A car pulled up near her westbound who was also calling for help.
13. My review of the police photographs and diagram indicates that following the accident, Kevin Pecor's bicycle was found along the north edge of Amostown Road east of the driveway at #16. East of this rest position the police located scrape marks on the road approximately 3 inches long in an east to west direction which they attributed to Kevin Pecor's bicycle. The police found scrapes on the foot pedal as well as the top of the fork in the middle of the handlebars. The handlebars were twisted 90° from front and the passenger saddle was slightly twisted. The rear wheel was slightly bent, but the bike sustained little damage as a result of the accident. Apparent scrapes are also seen on other parts of the handlebars in the police pictures.
14. The physical evidence indicates that the initial rest position of Kevin Pecor before being run over by the Vassallo Ford was near the centerline of the road. Following the second impact, it appears that Kevin Pecor's body moved southwesterly from the centerline. The final rest position of the Honda operated by Johnny Martinez was recorded by the police as approximately 175 feet west of the area of initial impact.

15. It is my understanding from you that no additional police photographs exist. Therefore, it appears from my investigation to date that the police did not make any attempt to photograph the physical evidence produced to either automobile involved in this accident. More importantly, no photographs exist to document what is purported to be damage on the Honda Civic as a result of the impact with the bicycle. According to the narrative portion of the police report, the damage to the Honda was considered "cosmetic." Johnny Martinez told police he had washed his car earlier in the day. The police describe little dirt or road film on the car. They indicate that there was damage to the right corner of the front bumper and smudge marks on the edge of the hood next to the fender close to the windshield. They also described a "smudge mark" on the windshield seal on the passenger side as well as one on the roof line towards the rear of the automobile. The marks were considered consistent with those found as a result of a pedestrian bicycle accident and further described as supporting the statement given by Johnny Martinez as well as the witness, Tina Wood.

Damage on the Ford Focus was also considered "cosmetic" to the bottom area of the front bumper. Damage is described as occurring to some plastic flanges; also located on the undercarriage toward the left side of the car were blood, hair fibers and body tissue consistent with injuries to Kevin Pecor. The Ford had a substantial amount of dirt and road film on it, considered average for most cars by the police for the conditions. Along the lower driver's side of the front bumper dirt and film was "removed" indicating that area struck Kevin Pecor.

16. The police recorded skid marks left by the Vassallo Ford Focus as it was braked hard to a stop behind the Honda Civic operated by Johnny Martinez. These skid marks were 31.49 feet in length and are drawn as having been produced by the left front and right front wheels of the Ford. Three coefficient of friction tests were performed to get an average coefficient of friction; the police then calculated the speed of the vehicle at the start of the skid marks based upon the lowest friction test and a 60% braking efficiency. This calculation revealed that the minimum speed of the Ford at the start of the skid mark was at least 21.82 miles per hour.
17. The following is a summary of my conclusions to date, based upon the information and evidence described in the preceding sections of my report:
- There are no indications that the visibility of Kevin Pecor to Johnny Martinez was a factor in the accident. Johnny Martinez states that he observed Kevin Pecor on his bicycle and was attempting to drive around him when the accident occurred. The police describe the overall condition of the bicycle prior to the impact as "very good." The bicycle had a reflector attached to the rear of the bicycle as well as pedal reflectors. Under night conditions with headlamps approaching from the rear these would have been readily visible to an operator. The area was also

supplemented with overhead street lights. Therefore, there are no indications that Kevin Pecor contributed to this accident because he was difficult for Johnny Martinez to detect and avoid.

- There is no physical evidence on the bicycle which indicates that it was struck directly from behind or as Kevin Pecor was moving to the left lane. The bicycle has no evidence of being struck directly behind on its rear wheel, and the condition of the wheels and the bicycle itself following the accident reveals no signs of lateral movement from being struck by crossing in front of the Honda.
- The description of damage by the police of contact marks on the Honda Civic are also inconsistent with Kevin Pecor having been moving to the left lane in front or at the right front corner of the Honda when the accident occurred. The description of damage is more consistent with a corner/sideswipe type collision as the vehicle was overtaking the bicycle. This is also consistent with the after-impact rest position of the bicycle along the north edge of the road west of the area of impact.
- The after-impact redirection and ultimate first rest position of Kevin Pecor near the centerline of the road is probably the result of Johnny Martinez swerving hard left at a time Kevin Pecor was displaced from his bicycle and in contact with the Honda rather than from Kevin turning left in that direction at the moment of impact.
- The West Springfield Police should have documented the condition of both vehicles (but certainly the Honda Civic) with photographs and preferably with photographs and height measurements as part of this fatal accident investigation rather than simply describing damage in the narrative portion of the police report.
- Both automobiles were towed from the scene to the West Springfield Police Station garage where, according to the reports they were "documented further." There are no indications that a mechanical inspection was done; if one was done, I have no documentation of what was determined. Mechanical inspections are another basic part of a fatal accident investigation undertaken to rule out any contribution to the accident by means of lighting, operational or mechanical defect or deficiency to either vehicle.
- The narrative portion and the diagram portions of the police investigation indicate that a determination was made of the "area of the initial impact" and that this was 4-1/2 feet from the edge of the road, putting Kevin Pecor close to the middle of the westbound travel lane. The diagram indicates with the letter "H" the "area of impact" determined by the police, but no explanation is given in writing or on the diagram as to what evidence

pointed to that area. Just to the south of "H" is area "H1" described as a red paint chip. The Honda Civic operated by Johnny Martinez was red in color. The description of the damage on the Civic is described as "cosmetic" by the police with no indications of missing paint. Even if paint was missing, if this was used as a means of determining the area of impact it would not be in any way reliable especially with a second vehicle passing through the scene immediately after the impact. The parallel east to west "scrapes" on the road surface were probably produced after the bicycle was down on the road surface moving to rest and are not an indication of the "area of impact" as they might be in a car to car accident.

- The calculation of a minimum speed by use of the formula in the police report, together with the use of a drag sled to obtain a coefficient of friction for those calculations are proper accident reconstruction techniques. However, the number calculated (21.82 miles per hour) is actually much less than the minimum speed of the car mostly because the police used a braking efficiency of 60% during the calculation. This was probably done because only the left front and right front left skid marks on the road, and each wheel would produce about 30% of the braking for a total of 60%. However, use of a 60% braking efficiency in this calculation is essentially saying that only the left front and right front brakes were actually working. The same length of skidding calculated with the average coefficient of friction (rather than the lowest) and assuming all of the brakes were in proper working order reveals a minimum speed of the vehicle from skid marks alone of 28.5 miles per hour. This calculation is only the speed from the actual skid marks, and does not represent any speed loss that may have occurred before Patrick Vassallo locked his wheels and skidded to a stop.
- Projecting to the east back from the first indication of any evidence on the road indicates that the impact between the Honda Civic and the bicycle probably occurred much closer to the first of the two driveways drawn on the police diagram; closer to the intersection of King's Highway, the projecting snow bank and the closest overhead street light.
- It is probable that this accident occurred as Kevin Pecor was traveling westerly on Amostown Road on his bicycle maneuvering around a snow bank to continue west and not swerving hard left or crossing the road at the time of impact. Seeing a bicyclist ahead of him in the travel lane, recognizing the snow bank conditions that restricted the road width and having an oncoming eastbound vehicle (witness Tina Wood), Johnny Martinez should have waited for oncoming traffic to pass by slowing down before attempting to pass Kevin Pecor. Based on the displacement distance of Kevin Pecor from the likely area of impact to his first position of rest, there are no indications to support Johnny Martinez's recollection

that he was only traveling 20 to 25 miles per hour at the time the accident occurred; it is likely that he was traveling faster and probably at a speed of at least the speed limit. It is my opinion that based on the conditions which existed at the time, Johnny Martinez passed Kevin Pecor in an unsafe manner and contributed significantly to the cause of the accident.

CAVEAT

This Report is based upon those elements of technical investigation which have been completed to date. Should additional information become available to me at some future time, this may or may not have an effect upon this Report in the form of additions, deletions or modifications to the information presented.

If I am expected to testify in any manner in the future, I would like to review any relevant information that becomes available following the issuance of this Report. This would include but is not limited to any testimony, additional statements, photographs, diagrams, inspection reports, other expert reports, additional police reports or other documentation or materials that might bear upon my investigation to date.

Sincerely;



Michael A. Cei

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