

Aurora (Colo.) Police Department

Report Of Accident Investigation Involving Officer Doug Byrne
Report: Findings Of Fact And Recommendations

On March 25, 2007, at approximately 1943 hours Officer Doug Byrne was killed as a result of a police related automobile crash. Officers Doug Byrne and Susan Stabler were responding to a dispatched call to the location of Hoops Park in the area of 6th Avenue and Norfolk Street.

While enroute to the call at approximately 1945 hours, Officer Doug Byrne lost control of his police vehicle, struck a raised median and was ejected from the vehicle. Officer Doug Byrne was transported by helicopter to Swedish Hospital where he succumbed to his injuries a short time later.

This report was comprised based on a request by Chief Daniel Oates to determine what happened leading up to the accident and what our organization can do differently to prevent a similar accident from happening again.

EXECUTIVE SUMMARY

On March 25, 2007, both District traffic units responded to the area of 15500 E. 6th Avenue to investigate a rollover police vehicle accident. Many officers contributed to a thorough and comprehensive investigation to include analysis, witness statements and preservation of evidence.

The investigation revealed at 1943 hours dispatch was advised by Engine 5 to notify the police department that this was a "core!" Unit 212 (Officer Byrne) and 214 (Officer Stabler) were dispatched on the core but were not notified that Fire EMS were already on scene.

Officer Byrne was traveling eastbound on 6th Avenue between 56-65 miles per hour just prior to the accident. The witness statements and physical evidence show the police vehicle was being operated without the emergency equipment activated.

Officer Byrne attempted to pass a vehicle from the right lane. The driver of that vehicle observed a police vehicle some distance behind him with emergency equipment activated and began to enter the number two lane at the same time Officer Byrne was going to pass.

Officer Byrne steered to the right and began to lose control, at which time he over corrected and steered back to the left causing the vehicle to enter a slide. The police vehicle slid into the raised portion (planter) in the median causing the police vehicle to roll one time. As the police vehicle rolled over Officer Byrne was ejected from the vehicle. The physical evidence supports the fact that Officer Byrne did not have his seatbelt attached at the time of the accident.

Activation of emergency equipment at the time of the accident was another crucial part of this investigation. There were three witnesses who visually and audibly observed the police vehicle operated by Officer Byrne without any of the emergency equipment activated just prior to the accident.

There was another witness who heard the accident and described to the call taker that she could hear a horn honking after the initial impact. The witness did not hear any sirens prior to the impact but heard them a short time later. When Officer Stabler communicated with dispatch using her mobile radio, the listener could hear the horn honking in the background.

The contributing factors:

Seatbelt: Officer Byrne did not have the seatbelt engaged at the time of the accident. If Officer Byrne had the seatbelt engaged at the time of the accident, the outcome may have been different.

Passing a vehicle on the right: The police vehicle operated by Officer Byrne was passing in the right lane when the vehicle that occupied the left lane began to move into Officer Byrne's lane of traffic (the right lane). The driver of the vehicle that entered the right lane did so after observing the emergency equipment from Officer Stabler's police vehicle. Officer Stabler's police vehicle was a distance behind Officer Byrne at the time of the accident.

Failing to utilize emergency equipment: The investigation revealed that Officer Byrne did not have his emergency equipment activated at the time of the accident.

Speed: The speed of the patrol car at the time of the accident may have contributed to Officer Byrne's inability to regain control of the vehicle as it entered the slide.

Knowledge that Fire EMS was already on scene: Had Officer Byrne known that Fire EMS was already on scene and rendering medical aid, he may have chosen to respond at a slower speed and in a more controlled manner.

Investigation

Officers that responded to the accident involving Officer Doug Byrne included Officer Lana Jack #18144, unit 117; Officer Douglas Byrne #27246 unit 212; Officer John Bulman #301012 unit 213; Officer Susan Stabler #26763 unit 214; Officer Mark Larson #26773 unit 215; Officer James Salazar #301036 unit 226; Sergeant Martin Clough #18561 cruiser 28; Sergeant Kevin Rollins #7215 cruiser 47; Sergeant Brian Saupe #18137 cruiser 9, and Crime Scene Investigator Wendy McKernan #8474 Yankee 47

On March 25, 2007, at approximately 1935 hours Aurora Fire dispatched a company (term used to describe responding fire officials) to the area of 6th and Norfolk. The company included Engine 5. The dispatched call was an individual having a seizure at 6th and Airport. Medic 107 was also dispatched to Hoops Park, which is located at 6th and Norfolk. At approximately 1938 hours according to dispatch transcripts, Engine 5 acknowledged that it was on scene. Medic 107 acknowledged the information and again advised the location of 6th and Norfolk.

At approximately 1941 hours, Medic 107 was on scene and came over the air asking for a board to be brought over to their location. Paramedics then asked dispatch if it showed them on scene. Dispatch confirmed. At approximately 1943 hours Engine 5 told dispatch to advise the police

department that the call was in fact a “core” (term used to describe a patient without vital signs). Dispatch acknowledged the transmission from Engine 5 at approximately 1943 hours.

At 1943 hours dispatch assigned the call at Hoops Park to unit 212, Officer Doug Byrne and unit 214, which is Officer Susan Stabler. Officer Stabler asked to be pre-empted from her current call so she could start to the location of Hoops Park. Dispatch verified that Cruiser 28, Sgt. Martin Clough was clear on the dispatch call of the “core” call at Hoops Park.

According to the departmental GPS records, it placed Officer Doug Byrne at the intersection of Colfax and Chambers Road when he received the call. His vehicle was facing westbound at Chambers on Colfax waiting to make the southbound turn. Officer Byrne made the turn and traveled southbound on Chambers from Colfax.

As Officer Byrne approached Chambers Road and 6th Ave, Officer Stabler also approached the same intersection and could see the overhead lights from Officer Byrne’s vehicle as he cleared the intersection and continued eastbound on 6th Ave. Officer Stabler lost sight of Officer Byrnes’ vehicle for a short time until she made the turn onto 6th Avenue. Officer Byrne continued to travel eastbound in the number two (outside) lane on 6th Avenue as he approached another vehicle.

Officer Byrne attempted to pass a vehicle that was positioned in the number one (inside) lane. The occupants were identified as Kendra Hamilton DOB 04/21/87 and Robert Cogar DOB 04/22/86. Officer Beach interviewed both individuals and determined that Robert Cogar was the driver and Kendra Hamilton was the passenger. Both witnesses stated they observed flashing lights a distance behind them. The driver began to maneuver his vehicle to the side of the road when he realized there was another police car already in the outside lane.

Witness Statements

Officer Beach placed the following statements in his police report that depicts the chain of events as observed by two of the witnesses.

They were traveling eastbound on 6th Ave.

They were traveling in the left lane.

They observed a squad car approximately 200 feet behind them with its overhead lights on.

They started to move into the right hand lane to let the police car go by. While making the lane change they looked to their right and observed a second police car beside them (this would be the vehicle operated by Officer Doug Byrne).

The second police car did not have any lights or siren on according to the passenger and driver of this vehicle.

They moved back into the left lane as soon as they saw the police car in the right lane.

The police car passed them and started to slide sideways. They slammed on their brakes. The police car hit the median and flipped several times. They pulled into the Shell gas station.

The passenger Kendra Hamilton was panicking and they went home.

She saw the news describing her vehicle at which time she called the police.

According to the driver, they were driving eastbound on 6th Ave. in the left hand lane.

They observed the police car approximately 200 feet behind them with its overhead lights on.

They started to move into the right lane to let the squad car go by. While making the lane change they looked to the right and saw a second squad car behind them. The police car was going “really, really fast.” The police car did not have any lights or siren on.

The police car was approximately 50 feet in front of them when it lost control.

The police car hit the median and Mr. Cogar pulled into the gas station and called his parents, he was unsure of what to do. Mr. Cogar then took Ms. Hamilton home and she called the police.

Officer Beach was instructed to go to their house and interview them about what they knew about the accident. Officer Beach also examined the vehicle they were driving at the time of the accident and was unable to locate any damage that would have indicated contact with the police car that was operated by Officer Byrne.

Eric Stratton was also contacted regarding the officer involved accident. Mr. Stratton was walking eastbound on 6th Avenue when he observed the police car operated by Officer Doug Byrne traveling a high rate of speed. Mr. Stratton observed the police vehicle attempt to pass another vehicle in the right lane at which time the officer lost control of the police car and struck the median causing the vehicle to roll into the westbound lanes of traffic. According to Mr. Stratton the police vehicle did not have the emergency equipment activated at the time of the accident or prior to passing the vehicle.

Again conducting follow-up on March 27, 2007 Detective Dailey contacted Mrs. Susie Hail who was the reporting person on the initial call to 911 regarding the motor vehicle accident. Mrs. Hail advised that her backyard backs up to east 6th Avenue on Kalispell where the accident occurred. Detective Dailey asked Mrs. Hail if she saw the accident occur at which time she stated, “no.” Detective Dailey followed up by asking her what she does remember. Mrs. Hail went on to say that at approximately 7:45 p.m. she heard screeching tires and then two thumps and then a car horn going off. A few minutes later she heard the sirens. Detective Dailey clarified with Mrs. Hail that she did not hear the sirens until after the loud thumps and the car horn.

When listening to the dispatch tapes and Officer Stabler’s initial transmission regarding the accident, the listener can hear a car horn. The horn in the background would belong to the police vehicle operated by Officer Byrne.

Further in the transcripts you will read the conversation between Mrs. Hail and Aurora Dispatch, which states the following:

Call Taker-- What's your emergency?

RP states -- You know there was just an accident I am just off of 6th and Laredo and I just heard two cars hit hard on 6th Ave.

Call Taker -- 6th Ave and Laredo you say?

RP -- Yeah, that's where I live, I live just off of 6th and Laredo.

Call taker -- Can you see where the cars are?

RP -- Two cars hit real hard, and I'd say um right behind my backyard on 6th Ave, actually I can hear one of, hit one of the car horns are on right know it really hit hard.

Call Taker -- So it's probably on Norfolk?

RP -- Ah it may be on Norfolk is east of us I'm looking west of us.

Call Taker -- OK, so hang on just a second, I had three accidents all on 6th Ave.

RP -- response- Holy Cow!

Call Taker -- It was two cars?

RP -- Yeah it sounded like it, boom, boom, and if there's, if cars off I can hear a horn and if somebody's hurt somebody must be laying against the steering wheel.

Call taker -- Can you see an accident at all?

RP states -- No I can't. I (something blank) on me but did not hear it. It was a hard crunch, crunch I heard tires screech then the crunch, crunch. It was like a boom, boom.

Call Taker -- Asks for the RP to hold on.

RP -- I told my husband, "My gosh, there's an accident I hear police officers coming." (That would be the sirens from the responding officers).

Call taker -- Yes

RP states -- I hope nobody's hurt but they speed up and down 6th Ave.

Call Taker -- Ok I got the call in. What's your name?

RP -- Gives her name "Susie"

Technical Summary

Accident diagram and Investigators observation

Please see attached diagram and reports in accident report section

Based on the evidence at the scene and from witness statements, it is clear that the vehicle went into a counterclockwise spin into the median where it subsequently went airborne, landed on the passenger side, did a half-turn, landed on the driver's side a post, rolled another quarter turn from the a-post to the driver's side wheels and then landed on all four wheels where it remained at final rest.

The following conditions are needed to calculate an airborne speed: Vertical distance the vehicle traveled in the air; take off angle, the horizontal distance traveled by the center of mass of the vehicle from take-off to first landing and the slope of the roadway.

This particular accident presented several challenges to obtaining that information. First, the vehicle entered the median in a broadside slide, passenger side first. The front end of the vehicle struck the lower level of the median and went airborne before the back end of the vehicle went airborne. The backend of the vehicle went up the higher part of the median before going airborne.

The center mass of the vehicle went airborne somewhere in between. Additionally, the front of the vehicle landed sooner than the rear of the vehicle. However, the front of the vehicle traveled 35 feet in the air and the rear of the vehicle traveled 35 feet in the air. Given the consistency, Officer Kelly used 35 feet as the horizontal distance traveled by the center of the mass in the airborne equation.

The vehicle landed on its passenger side tires first before rolling up on to the rims and then rolling over. What is not known is the angle at which the vehicle first came into contact with the roadway. To know the exact height of the center of the mass at impact with the ground is unknown. Officer Kelly used three different heights to obtain a range. First, he used the maximum height the center of mass could have been upon landing. The maximum height would be if the vehicle landed directly on its side. The center of the height would be half of the overall width of the vehicle.

Officer Kelley obtained this information from the vehicle database in the AR PRO software (see attached sheet). The second center of mass Officer Kelly used, would be if there was not a difference in the height change of the center of mass, i.e. that the vehicle landed on all fours simultaneously. The last height that was used was the average of the first two heights.

The slope of the roadway is upward from west to east but such a minor angle that it does not factor in the accident.

Using the three heights, three speeds were obtained: 22.83 mph, 23.35 mph and 23.09 mph. The difference in the three speeds is negligible and the average speed, 23.09 mph, is later used in the combined speed formula.

To calculate the speed loss over the curved tire marks on the roadway, Officer Kelly utilized the spin analysis. The spin analyses formula gives an adjusted drag factor of the vehicle while it is

spinning. To do this, a diagram must be utilized placing the vehicle on its path from the beginning of the marks to final rest, or in this case, where it went airborne. Using the scale diagram, he placed the center of the mass of the vehicle in 20 foot increments. There were a total of 7 increments.

All measurements were obtained using the CAD Zone software from the scale diagram. The slip angle was obtained at each increment. The slip angle is the difference between the direction of the heading of the vehicle and the direction of the bearing of the vehicle. The distance traveled by the center of mass was obtained. After obtaining the adjusted drag factor for each increment, Officer Kelly found the speed energy loss equivalent for all 7 increments. Using the combined speed formula, he obtained a final speed energy loss throughout the spin. This final speed energy loss through the duration of the spin was 41.53 mph.

Combining the speed loss with the spin and the speed from the vault, a speed at the onset of the tire marks was obtained. This speed was 47.52 mph.

The following should be noted: the beginnings of the tire marks on the diagram were not the beginning of the tire marks as Officer Kelly originally observed them at the scene. Officer Kelly was unable to locate the beginning of the tire marks after the light source changed.

Officer Kelly estimated that from where he originally saw the tire marks the distance could be increased by 50 percent to 60 percent. Given this, and based on his training and experience, it would be his estimation that the vehicle lost 10-20 mph more in the spin than the 41.53 mph originally found. Such speeds would increase the overall speed of the vehicle between 56-65 mph at the onset of the tire marks, Officer Kelly would not be able to show this mathematically.

Light Bar and Headlight Investigation

In the days following the accident, Officer Kelly pulled each of the bulbs out of the light bar that had a filament (LED lights do not), the headlight, and each of the four tail lights. Looking at the driver's side head light, the filament was stretched, indicating a hot shock. A hot shock indicates that the light was ON at the time of the accident.

Investigation of the passenger side headlight was inconclusive, but the evidence leaned toward the possibility that the light was in cold shock, i.e. it was off at the time of the accident. Given the discrepancy of the two headlights there was presented two possibilities: that the headlights were on and the passenger side headlight was burned out (working under the assumption that the passenger headlight was cold shocked) or that the headlights were in the "wig wag" stage because the vehicle was operating under emergency stage 3.

Though not conclusive, it appears that each of the bulbs taken from the light bar was cold shocked. This evidence points to the probability that the light bar was not activated at the time of the accident.

Interior Condition of the Vehicle

The most significant facts to the interior of the vehicle are the following:

The vehicle was in park. It is unknown who on scene put the vehicle into park. The driver's seatbelt was not fastened and did not show any wear/stretch marks consistent with a seatbelt that is being worn in an accident. The headlight switch was in the on position. The light bar activation switch was in the off position, but it was heavily damaged. The light bar activation switch was set at an angle facing the driver.

These facts show that the headlights of the vehicle were on at the time of the accident and that the driver was not wearing a seatbelt. The light bar switch may or may not have been moved during the accident, though the probability is that it was in the off position.

Conclusion

This was a tragic accident with many contributing factors. Officer Byrne was responding to a call involving a "core" and fire was already on scene. The responding officer was unaware that Fire EMS had arrived on scene and was rendering medical aid. Note: Operating procedures have already been adopted to notify officers as soon as possible if fire or police have arrived on scene and are in control of the incident.

Witnesses to the accident verified the physical evidence recovered from the police vehicle that Officer Byrne was not utilizing his emergency equipment during his response to Hoops Park. The information from the data retrieval system verified the fact the Officer Byrne did not have his seatbelt attached prior to the accident.

Speed may have been a possible contributing factor for this accident, keeping in mind a driver could lose control of a vehicle at very low speeds as well as high speeds depending upon steering and road conditions. In this particular investigation it was the officer's evasive action or pulling of the steering wheel that caused the vehicle to enter a slide and ultimately causing the officer to lose control.

If Officer Byrne had been wearing his seatbelt at the time of the accident, the outcome may have been different.