Case Study D
Kansas City, Missouri
September 5, 2004

At approximately 17:15 hours on Sunday September 5, 2004, Kansas City, Missouri Fire Department Pumper 33 was one of several fire department units that were dispatched to a reported fire at an apartment complex (this would turn out to be a very minor incident). Pumper 33 was traveling southbound on Blue Ridge Avenue (a four-lane street) with their siren and emergency warning lights activated. As they did so they approached a southbound passenger vehicle that appeared to come to a complete stop in the left (inside) lane. In reality the second vehicle was slowing to make a left hand turn into a driveway at that location.

As Pumper 33 approached the slowing vehicle they crossed left of center in an attempt to pass the vehicle. At that time, the slowed vehicle turned left towards the driveway and into the path of Pumper 33. Pumper 33 struck the vehicle with a glancing blow and veered across the northbound lanes of Blue Ridge Avenue **(Figure D.1)**. Pumper 33 collided head-on with a 2nd passenger vehicle that had pulled over to the curb to yield right-of-way to the approaching fire engine **(Figure D.2)**. After striking this vehicle, Pumper 33 sheared off a utility pole and then struck a large tree. The main point of impact was in front of the officer's seat position **(Figure D.3)**.

The driver of the car who turned in front of Pumper 33 was not seriously injured. The driver of the second vehicle struck by Pumper 33 required extrication and was critically injured. The 57 year-old acting captain riding in the front of Pumper 33 was killed and the driver was seriously injured. Two other fire fighters on the apparatus were not seriously injured.

In the ensuing investigation it was revealed that Pumper 33 was traveling approximately 51 mph at the time of the initial collision. It was also calculated that the pumper was traveling approximately 34 mph when it struck the second vehicle and 24 mph when it struck the tree. An inspection of the apparatus braking system revealed that the brakes were out of proper adjustment. The braking system had not been properly serviced for a period of 16 months before the collision. The KCFD maintenance program had been backlogged due to a severe shortage of reserve apparatus. The final report noted that the improperly adjusted brakes were not an issue with the initial collision. However, properly operating brakes should have been able to stop the apparatus before it struck the tree, which was the fatal blow for the acting captain in the passenger seat.

Lessons Learned From This Incident

In reviewing the details of this incident, the student should recognize the following important points:

1. Driver/operators should use extreme care when moving the apparatus left of center in the roadway. Apparatus should be moved left of center only when absolutely necessary and then extreme caution should be used. Proceed past stopped vehicles slowly to ensure that they do not enter your lane of travel.

2. Fire apparatus should undergo regular maintenance to ensure that all systems, including the braking systems, are operating properly. All apparatus should be maintained in accordance with manufacturer's recommendations and specifications. This is especially crucial for systems that impact vehicle safety, such as the braking and steering systems. In this incident the faulty braking system would not have prevented the initial collision, but likely would have prevented the fire fighter fatality following the first crash.

Figure D.1

Figure D.2

Figure D.3