

DATE: September 24, 1992

FROM: Fatal Accident Circumstances and Epidemiology (FACE) Project
Minnesota Department of Health (MN FACE)

SUBJECT: MN FACE Investigation MN9214
Highway Construction Flagman Dies after Being Struck by a Pickup Truck

SUMMARY

An 18-year-old male (victim) highway construction flagman died as a result of traumatic injuries received after being struck by a pickup truck. A highway crew was milling the surface of a bridge approach area in preparation for re-surfacing. The work was being done at night during minimum traffic hours. The victim, outfitted in full reflective vest, pants, and hardhat, was directing traffic at one end of the bridge. The road was well marked with traffic cones and signs and the entire bridge was well lit with streetlights. In addition, at the time of the incident he was standing under portable floodlights and rotary beacons were situated near him. He was standing in the opposing traffic lane close to the centerline, facing on-coming traffic. A pickup truck, traveling 55-60 miles per hour (mph) and in the wrong lane, struck him head on and carried him approximately 200 feet. He died almost immediately from multiple traumatic injuries. MN FACE investigators concluded that , in order to prevent similar occurrences, the following guidelines should be followed:

- > reduce the posted traffic speed limit through highway construction and work zones; and
- > post law enforcement vehicles and/or personnel near and before highway

INTRODUCTION

On July 11, 1992, MN FACE was notified of a work-related highway construction fatality by the Minnesota Occupational Safety & Health Division (MN OSHA). The incident had occurred early that same morning. The MN OSHA compliance officer investigating the incident was contacted and releasable information was taken. City police, state patrol, and county coroner reports were requested. On July 12, 1992, the victim's employer was interviewed and a site investigation was conducted on July 13, 1992.

The victim worked for a local highway and heavy construction contractor. The company employed approximately 200 workers in Minnesota, 7 of whom were flagmen. Annual spring safety meetings, monthly staff safety meetings, and weekly toolbox meetings on job sites were conducted. The company employed a co-safety director setup, in which day-to-day responsibilities were split. Co-safety directors were on site and held monthly reviews together. Night work safety concerns had recently been addressed by company officials who met with state officials to discuss existing problems. The victim had worked for the company as a flagman since the beginning of June 1992.

INVESTIGATION

A highway construction crew was taking up 2.5 inches of a two-lane bridge highway approach area with a rotor mill. This job was being performed at night during minimum traffic hours; the incident occurred at approximately 3:00 a.m. The bridge ran north and south; the road length milled that night was approximately two blocks long at the north end of the bridge. The rotor mill had advanced from the north towards the bridge entrance and the job was near completion. The posted speed limit for the stretch of highway involved was 55 mph.

The victim was positioned just at the north end of the bridge, approximately 75 feet in front of the mill machine. He stood just west of the center line in the southbound lane with the mill machine at his back, facing on coming, northbound traffic. He was responsible for stopping and directing this northbound traffic, part of the process of coordinating traffic around the mill machine and work area. See Figure 1.

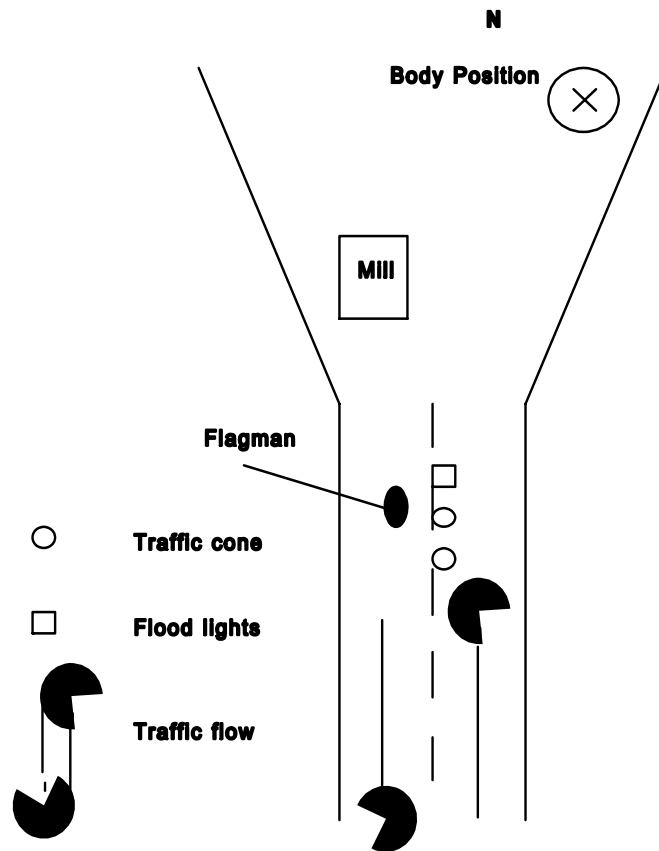


FIGURE 1.

A portable generator with 7-foot tall floodlights was positioned near him for illumination purposes. In addition, the bridge was well lit with streetlights; the victim was positioned approximately 15-20 feet from one of them. Traffic signs, cones, and beacon lights were appropriately in place throughout the construction zone. The victim was outfitted with a full reflective vest, reflective pants, and hard hat. It was a clear night and visibility was good.

A pickup truck traveling north at approximately 55-60 mph approached the bridge. It advanced across the bridge in the wrong (southbound) lane, directly towards the flagman who was standing in that lane. The truck struck the flagman, managed to maneuver into the correct (northbound) lane before striking the mill machine and other workers, and carried the victim approximately 200 feet before coming to rest in the road at the north end of the bridge. There was no indication of the truck slowing or stopping before impact.

A 911 call was placed from the company's mobile phone. Police administered CPR upon their arrival and continued until an ambulance crew arrived and took over. The victim was transported to a hospital but was listed as dead on the scene by the county coroner on the death certificate.

NOTE: The driver of the pickup truck involved in this incident had consumed alcohol before the incident occurred. He is presently incarcerated and being charged with criminal vehicular operation resulting in death.

CAUSE OF DEATH

The cause of death listed on the death certificate was multiple severe traumatic injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation 1: Reduce posted speed limits through highway construction and work zones, especially during night hours.

Discussion: The posted speed limit through this construction zone was 55 mph. It was reported that the driver passed several "Road Construction" and "Flagman Ahead" signs plus a message board indicating that traffic should be prepared to stop. Despite these signs, there was no indication that he slowed before or after he reached the bridge. During construction activities, posted speed limits should be reduced and strictly enforced to increase the safety of highway workers.

Recommendation 2: To ensure traffic slows before entering highway work zones, law enforcement vehicles and/or personnel should be posted in a visible location well in advance of highway construction zones.

Discussion: In general, it seems to be a fairly common phenomenon that traffic will slow when law enforcement vehicles or flashing police lights are seen by drivers. In nighttime work zones, it may be necessary to recruit the assistance of police officers for highway construction worker safety purposes. They could be posted in advance of construction zones in a highly visible position. Many drivers might slow to more appropriate speeds upon seeing them, and if not, they could be easily ticketed for not

slowing to posted speed limits. A system like this could also eventually increase public awareness of highway construction safety issues.