



The National Institute for Occupational Safety and Health (NIOSH)



Highway Construction Worker Dies After Being Struck While Crossing Roadway

Minnesota FACE Investigation 94MN031

April 26, 1995

SUMMARY

A 55-year-old male construction worker (victim) died of injuries sustained after being struck by a vehicle on an interstate highway. The victim was part of a two-person crew assigned to install steel pipes beneath the interstate highway. The victim and a coworker used a boring machine to drill holes beneath the highway. The boring machine was located in the ditch on the east side of the northbound lanes of the interstate highway. The coworker monitored the gauges and instruments of the boring machine at the time of the incident. The victim crossed the highway lanes to mark the exit location of the hole currently being drilled. According to witnesses and emergency personnel who responded to the scene, the victim was not wearing a high visibility safety vest.

When the victim crossed the highway and was near the middle of the left lane, two vehicles traveling in that lane approached him. The driver of the second vehicle momentarily looked to the right, toward the boring machine. When he looked forward again, the vehicle ahead of him had moved over one lane to the right and he saw the victim standing directly in front of him. The driver of the second vehicle turned his vehicle to the right and applied his brakes. The victim was struck by the skidding vehicle and landed in the ditch along the left shoulder of the highway. Emergency medical personnel were called and arrived at the scene within a few minutes. The victim was transported to a local hospital where he died approximately two hours later. MN FACE investigators concluded that, to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- employers should ensure that employees wear high visibility vests or garments while walking and working on roadways; and
- employers should schedule roadway construction work during non-peak traffic periods.

INTRODUCTION

On June 3, 1994, MN FACE investigators were notified of a work-related construction fatality that occurred on May 25, 1994. A site investigation was conducted by a MN FACE investigator on June 28, 1994. During the site investigation, information concerning the incident was provided by the victim's employer and by several coworkers. In addition, the Minnesota State Patrol was contacted, and a copy of their report of the incident was obtained.

The victim was employed by an underground construction company for 15 years. The company provided employees various types of safety training, including classroom seminars and on-the-job training. The company had a written safety program that specifically addressed the hazards associated with the work being done at the time of the incident. The company had a safety officer who devoted 25 percent of his time to safety issues.

INVESTIGATION

This incident occurred at approximately 8:30 a.m. on an interstate highway near a major metropolitan area. The highway carried a large volume of traffic throughout the day. The construction company had received a contract to install steel pipes at several locations under the highway. The victim was part of a two-person crew assigned to install the underground pipes. They had worked at the site for several days prior to the incident and had set up construction warning signs 2,000 feet ahead of their work site. All of the warning signs were on the right hand, or east side of the road. According to witnesses and emergency personnel who responded to the scene, the victim was not wearing any type of reflective safety vest.

The victim and a coworker used a boring machine to drill holes beneath the highway. The boring machine was located in the ditch on the east side of the northbound lanes of the interstate highway. The coworker monitored the gauges and instruments of the boring machine at the time of the incident. The victim crossed the highway lanes to mark the exit location of the hole currently being drilled.

According to a state patrol officer's report, several drivers witnessed the incident and said that the victim was not watching the traffic as he began to cross the highway. When the victim was near the middle of the left lane, two vehicles traveling in the left lane approached him. The driver of the second vehicle momentarily looked to the right, toward the boring machine. When he again looked forward, the vehicle ahead of him had moved over one lane to the right and he saw the victim standing directly in front of him. The driver of the second vehicle turned his vehicle to the right and applied his brakes to avoid hitting the victim. He was unable to avoid the victim who was struck by the skidding vehicle. After being struck, the victim was thrown approximately 40 feet and landed in the ditch along the left shoulder of the highway. The force of the impact severed the victim's left leg above the knee.

Emergency medical personnel were called and arrived at the scene within a few minutes. The victim was transported to a local hospital where he died approximately two hours later.

The total skid distance of the vehicle that struck the victim was 193 feet. Based on the length of the skid and the dry conditions of the road surface, the state patrol estimated the minimum speed of the vehicle as 61 miles per hour at the time the driver started braking.

CAUSE OF DEATH

The cause of death listed on the death certificate was multiple blunt force injuries.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should ensure that employees wear high visibility vests or garments while walking and working on roadways.

Discussion: MN Department of Labor and Industry OSHA Chapter 5207.0100 requires that whenever employees are exposed to vehicular traffic when the work area is on the driving lane, the shoulders, or on the median adjacent to streets, highways, or roadways, employers are required to provide and employees are required to wear high visibility warning vests or other garments. In addition, for work during hours of darkness, this protective equipment must be made of or marked with reflective material.

Recommendation #2: Employers should schedule roadway construction work during non-peak traffic periods.

Discussion: This incident occurred near the end of rush hour traffic on an interstate highway near a large metropolitan area. The large volume of vehicular traffic increased the construction worker's risk of being struck and injured, especially since one of the workers was required to cross the highway driving lanes. Whenever possible, construction work on the driving lane, the shoulders, or on the median adjacent to streets, highways, or roadways should be scheduled during periods when the volume of vehicular traffic is small. This would reduce the risk of workers being injured by vehicular traffic while either working on or walking across roadway driving lanes.

REFERENCES

1. Minnesota Department of Labor and Industry, OSHA Chapter 182, Extract from Minnesota Statutes through November 30, 1994, Chapter 5207.0100.

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