

Fatality Analysis of Maintenance-of-way  
Employees and Signalmen



August 29, 2016

---

***Dedication:***

*The FAMES Committee dedicates its efforts to all roadway workers who have lost their lives in the performance of duty and to the families, loved ones, and coworkers they have left behind.*

# **Worker Safety**

**at**

# **Highway-Rail**

# **Grade Crossings**

***Mission Statement:***

*The Mission of the Fatality Analysis of Maintenance-of-way Employees and Signalmen (FAMES) Committee is to analyze all fatalities and selected related incidents in order to make recommendations to reduce the risk of future occurrences and eliminate fatalities to roadway workers.*

---

## **Worker Safety at Highway-Rail Grade Crossings**

There are no Federal Railroad Administration (FRA) regulations to protect roadway workers from vehicular traffic when working on or near highway-rail grade crossings (grade crossings). FRA does not have authority to regulate highway traffic.

### **Findings:**

- Reviewing the available data back to the year 2000, the FAMES Committee found 85 incidents where highway vehicles struck roadway workers performing maintenance at grade crossings, resulting in 4 railroad employee fatalities and at least 90 injuries.
- Signalmen performing maintenance, inspection, testing, and repair at grade crossings face added risk from highway traffic. Working alone, adverse weather, and poor lighting may present additional challenges.
- All roadway workers face similar risks when working at grade crossings.

### **Recommendations:**

- Employer's safety training and procedures for employees working on or near grade crossings should include the following:
  - Placement of advance signage, traffic cones, properly equipped highway flagmen, lights/beacons, etc. (as allowed by state/local law) and how to determine if coordination with local or state agencies is necessary.
  - How and when help is needed to control or reroute traffic (e.g., police, Department of Transportation) and how to contact them.
  - How and when it is appropriate to use a vehicle as a barrier to temporarily block a lane.
- When working in or near a traffic lane, the work plan should always include an exit strategy in the event of a vehicle incursion.
  - Self-protection is not appropriate if the employee is unable to monitor approaching highway traffic. A spotter ("second set of eyes"), flagger, or other safety measures should then be used.
- The safety of highway users and roadway workers must be taken into consideration in job planning and the job briefing.

- Before a grade crossing warning system is interfered with manually, by either activating or deactivating the warning system, measures must be in place to provide safety for the highway users and train traffic.<sup>1</sup>
- Always wear high-visibility clothing (e.g., reflective outerwear) when working on or near a grade crossing.<sup>2</sup>
- Job planning should consider the job duration and purpose to determine the appropriate level of protection, considering:
  - On-track safety,
  - Highway speed and density,
  - Grade crossing configuration,
  - Sight distance for both rail and highway traffic,
  - Traffic patterns and changes due to rerouting,
  - Environmental conditions (e.g., weather, noise, and lighting).
- Move work away from the highway where practicable (e.g., it may be safer for a signalman to remove a crossing gate to make gate arm repairs and then rehang, instead of making repairs in the highway).
- Store equipment and material where it will not be struck by highway vehicles.
- While working on or near grade crossings, roadway workers must remain conscious of train traffic and on-track safety protection.
- Never use a grade crossing warning device as a substitute for roadway worker protection.

---

*The FAMES Committee consists of safety representatives from a cross section of rail labor, railroad management, and federal regulators. FAMES is a continuous improvement process that relies on the candid sharing of available data and the views of its participants. To enable the process, FAMES explicitly refrains from making any findings regarding whether any past or present practice or protocol satisfies any legal duty or standard of care.*

*The views, opinions, and recommendations contained in this report are those of the FAMES Committee and do not necessarily represent the views, opinions, or recommendations of any specific railroad, labor organization, or governmental agency.*

---

<sup>1</sup> CFR 49 Part 234.209: The normal functioning of any system shall not be interfered with in testing or otherwise without first taking measures to provide for safety of highway traffic that depends on normal functioning of such system.

<sup>2</sup> Part VI of the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) addresses standards and guides for flaggers and flagging equipment for highway traffic control.