



U.S. Department of Transportation  
**Federal Railroad Administration**

# **Rail-Highway Crossing Safety Action Plan Summary**

**Federal Highway Administration  
Federal Railroad Administration  
Federal Transit Administration  
National Highway Traffic Safety Administration**



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# INTRODUCTION

Each day, we are reminded of the importance of our efforts to improve highway-rail grade crossing safety and trespass prevention. Highway-rail collisions and trespassing on rail properties are the number one and two leading causes of death in the entire railroad industry, far surpassing employee or passenger fatalities.

In 1993, grade-crossing deaths rose by 8.1% over 1992 and trespassing deaths remained high. Specifically, nearly 4,900 collisions occurred between highway users and on-track railroad equipment. More than 600 individuals were killed and over 1,800 were seriously injured in these collisions. These crashes occurred nearly equally at crossings equipped with automatic warning devices (flashing lights and sometimes gates) and at those not equipped. Also in 1993, more than 500 people died while trespassing on railroad rights-of-way.

On the United States' approximately 160,000 miles of rail rights-of-way, there are over 280,000 highway-rail intersections. Approximately 60,000 (21%) of these are equipped with automatic warning devices.

The very existence of crossings is a major challenge to growing rail traffic and higher speeds for both passenger and freight rail operations. Our efforts to develop a "seamless" national intermodal transportation network must resolve these challenges.

This *Action Plan* details six major goals and 55 actions, addressing some aspect of crossing safety or trespass prevention. To be successful, the proposed actions will require strong partnerships between local, State and Federal highway and rail officials, law enforcement, the rail and transit industries, Operation Lifesaver and the United States Congress. With this plan as our blueprint, we will work together to increase public awareness to help prevent these needless tragedies.

# **MAJOR INITIATIVES**

- Enhance Enforcement of Traffic Laws at Crossings;
- Enhance Rail Corridor Crossing Reviews and Improvements;
- Expand Public Education and Operation Lifesaver Activities;
- Increase Safety at Private Crossings;
- Improve Data and Research Efforts;
- Prevent Rail Trespass Tragedies.

# ENHANCE ENFORCEMENT OF TRAFFIC LAWS AT CROSSINGS

By improving the understanding and observation of existing traffic laws, collisions at highway-rail crossings will be reduced. Law enforcement initiatives and innovations reduce traffic law violations and therefore reduce collisions.

Objective: To establish an expanded and proactive outreach program to our Nation's traffic law enforcement community ranging from patrol officers to judges.

Objective: To reduce the number of traffic law and warning device violations at highway-rail crossings by increasing enforcement and judicial support.

To meet these objectives we will:

1. Encourage State officials to use Section 402 funds (Highway Safety Program) to support education programs for the law enforcement and judicial communities.

2. Develop police officer and judicial outreach program materials for Federal, State and local advocates.
3. Develop an information package to assist States in revising their rules of evidence to allow for the use of photographic and video evidence for traffic citations and enforcement.
4. Consider a rulemaking to define violations of automatic warning devices at highway-rail crossings (e.g., going around lowered gates) as a serious offense, for holders of Commercial Driver's Licenses (CDL).
5. Update and republish the 1983 compilation of state laws and regulations regarding highway-rail crossings.

# ENHANCE RAIL CORRIDOR CROSSING REVIEWS AND IMPROVEMENTS

Traditionally, highway-rail crossings are selected for safety improvements one at a time based on the crossing's accident experience and highway and rail traffic counts. This fosters a bias toward urban areas and main roads where traffic densities are high, and excludes most low density crossings and those already equipped with automatic devices. In many cases, these crossings are not reviewed but would benefit from low cost improvements or could be eliminated.

**Objective:** To promote comprehensive and systematic corridor reviews of highway-rail crossings, especially those over our nation's Principal Railroad Lines (PRLs).

**Objective:** To eliminate little used and redundant crossings within corridors where alternatives exist, especially those on the National Highway System (NHS).

**Objective:** To upgrade signs and signals at all crossings, taking full advantage of available state-of-the-art technologies.

To meet these objectives we will:

1. Nominate PRL corridors for review and organize and promote State, local, MPO and industry safety corridor review programs.
2. Propose the elimination of crossings where NHS roads cross PRLs and

upgrading or elimination of all other NHS crossings, as part of the Safety Management System.

3. Promote the upgrading of existing signal circuitry and signage. In addition, States should consider the installation of STOP signs where warranted.
4. Review the allocation of responsibilities for the selection and installation of warning devices and the potential for uniform nationwide standards.
5. Make legislative proposals to provide Federal funds for bonuses, matched by the railroad(s), to local highway authorities for closing crossings.
6. Convene railroads, State DOTs and MPOs in regional meetings to facilitate integrated intermodal planning.
7. Update and republish the 1986 Handbook on highway-rail crossings, including a checklist of items to be considered in a corridor safety analysis.
8. Make a legislative proposal for incentive funding to promote the accomplishment of corridor safety programs.
9. Study the potential for a more equitable allocation of Section 130 funds to individual States, reflecting crossing needs and accident rates.

# **EXPAND PUBLIC EDUCATION AND OPERATION LIFESAVER ACTIVITIES**

Over \$2.8 billion in Federal-aid funds have been invested by States for safety improvements at highway-rail crossings since 1973. Over half of these funds were for automated warning devices. However, half of all collisions occur at crossings equipped with these devices. To realize full benefit from the public investment in these devices, motorists must be educated in their responsibilities at all types of crossings.

Operation Lifesaver (OL) is an active, continuous public information and education program to help prevent and reduce crashes, injuries and fatalities and improve driver performance at our Nation's 280,000 public and private highway-rail crossings.

Objective: To increase public awareness of  
1) hazards at crossings and,  
2) motorist responsibilities at crossings.

To meet this objective we will:

1. Work with OL to plan, coordinate, initiate and sustain a nationwide mass-media and youth education campaign.
2. Develop new and updated driver-training materials related to crossing safety. Distribute materials to state officials.
3. Promote outreach to our Nation's truck and bus industry stressing the hazards of highway-rail crossings.
4. Discuss crossing safety with truck and bus operators during on-site compliance reviews by State and Federal inspectors.
5. Increase Federal funding to OL, Inc. on the condition that the increase be matched from non-public sources.

# INCREASE SAFETY AT PRIVATE CROSSINGS

Private crossings are categorized as either farm, residential, recreational or industrial. Nearly two-thirds are farm crossings. However, most accidents occur at industrial crossings.

In the U.S., there are 110,000 private highway-rail crossings. More than 400 accidents and 40 deaths occur at these crossings each year. In most years, the number of deaths which occur at private crossings exceeds the number of on-duty deaths among railroad employees in all rail operations.

Objective: To develop and provide national, minimum safety standards for private crossings.

Objective: To eliminate the impediment to high speed rail operations posed by private crossings.

To meet these objectives we will:

1. Develop operational definitions and monitor accident rates for each private crossing category.
2. Conduct an informal safety inquiry to consider the definition of responsibilities, minimum safety requirements and warning device standards for each category.
3. Promote research to determine the feasibility of using railroad-dispatcher controlled cipher locks to secure highway barriers at private crossings.

# IMPROVE DATA AND RESEARCH EFFORTS

Access to valid data is key to good decision making. Additionally, for progress to occur, research and innovation are necessary. However, for highway-rail crossing issues, institutional concerns regarding costs (research and potential implementation), liability and current convention often impede progress. With the Department's involvement and leadership these obstacles can be overcome.

Objective: To enhance the effectiveness of our resources through research and data analysis.

Objective: To promote research and champion plausible innovation.

Objective: To insure that timely and accurate information needed by decision makers is available.

To meet these objectives we will:

1. Host Research Roundtables/Workshops with highway safety, law enforcement, rail and transit industry officials, governors' highway safety representatives, academia, consultants and defense industry representatives to examine research needs.

2. Develop demographic information regarding accident fatalities.
3. Investigate causes of increasing accident severity and the potential for severity mitigation measures.
4. Examine the potential of providing additional information to the motorist through innovative signs, signals, lights and markings.
5. Review available automated presence and intrusion detection hardware and the potential effectiveness of existing and proposed technology for conveying emergency messages.
6. Develop a hardware/software package for automatically receiving and forwarding reports of malfunctions and emergency situations at highway-rail crossings.
7. Expand transit safety data to include specific data on shared rights-of-way accidents involving light rail vehicles.
8. Review and confirm DOT's currently available highway-rail crossing resource allocation procedures and accident prediction formulas.
9. Promote more systematic updating of the U.S. DOT/AAR National Highway-Rail Crossing Inventory.



# PREVENT RAIL TRESPASS TRAGEDIES

Trespassing, with over a thousand deaths and injuries each year, presents the rail industry with a serious dilemma. Trespassers are not a single, cohesive group. Their one common attribute is the illegality of their act (trespassing). Because of this diversity, it is not likely that trespassers will respond to a single national initiative. Regional programs have more promise. The Department of Transportation will target this problem. Our goal is to prevent trespassing, not to make the railroad right-of-way safe for trespassers.

Objective: To raise public and police awareness of the unlawfulness of, and dangers inherent in, trespassing on railroad right-of-way.

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Objective: To develop and make available sufficiently detailed information to prepare and focus trespass prevention campaigns.

To meet these objectives we will:

1. Conduct a demographic survey of past casualties to determine the types of individuals and activities involved.
2. Refine future railroad "Injury and Illness" reporting requirements to provide more detailed and useful information regarding trespasser casualties.
3. Conduct a second Workshop on Trespass Prevention in cooperation with Operation Lifesaver, railroad police and the industry.
4. Plan and promote regional anti-trespass campaigns in cooperation with Operation Lifesaver, railroad police and the industry.
5. Develop model code for possible adoption by State legislatures dealing with trespassers and vandals in cooperation with the rail industry.