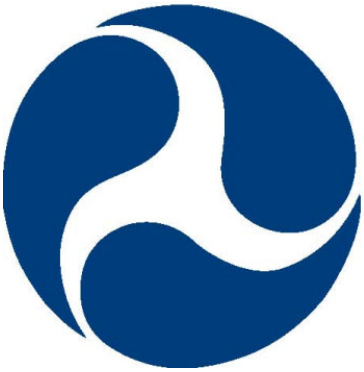
FEDERAL RAILROAD ADMINISTRATION



OFFICE OF RAILROAD SAFETY

HIGHWAY-RAIL GRADE CROSSING and TRESPASS PREVENTION: COMPLIANCE, PROCEDURES, AND POLICIES PROGRAMS MANUAL

October 2019

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Chapter 1 – General

Introduction

This Highway-Rail Crossing and Trespasser Programs (HRGX&TP) Compliance Manual sets forth the methods, policies, and procedures that shall be used by Federal Railroad Administration (FRA) inspectors and State Inspectors1 during their inspection and investigation activities to enforce and obtain compliance with the regulations, laws, and orders issued by FRA, and such other activities as may be assigned as part of their duties.

The directives and guidance contained in the HRGX&TP Compliance Manual are designed to maximize the effective use of available resources to obtain uniform application of FRA regulations pertaining to grade crossing safety and trespass prevention programs throughout the Nation. This uniformity is mandated, to the extent practicable, by the Federal Railroad Safety Act of 1970 and is necessary for the effective management of the National Safety Program Plan.

The information in this compliance manual intends to provide internal guidance and does not provide any basis for a private party to challenge FRA's exercise of enforcement discretion in a particular case. The guidance provided in the manual may be revoked or modified by FRA without prior notice at any time. This compliance manual supersedes all previous HRGX&TP enforcement and compliance manuals.

Future editions of this manual will document new or revised Federal regulations and FRA policies, programs, and procedures. Any suggestions for improving the manual are welcome for future revisions. Comments or suggestions should be forwarded to the HRGX&TP Staff Director, through the respective regional grade crossing specialist and/or Regional Administrator or Deputy Regional Administrator.

Purpose

The HRGX&TP Compliance Manual is applicable to Federal and State HRGX&TP inspectors. All HRGX&TP personnel should refer to the manual as often as necessary to obtain a clear understanding of:

(1) FRA policies, procedures, and programs;

(2) Proper application of the regulations pertaining to grade crossing safety; and

(3) Required conduct while enforcing FRA regulations and performing inspections and investigations.

If there is any doubt at any time about the intended meaning or proper application of any section of the manual, an inspector should ask his or her regional grade crossing specialist for clarification.

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1 FRA State Inspectors 49CFR Part 212

The manual complements the FRA Office of Railroad Safety's General Manual (General Manual). The General Manual provides detailed information about FRA's overall operation, history, and statutory authority; rulemaking process; and inspection and investigation procedures. Both manuals are specifically intended for use by HRGX&TP safety inspectors and technical specialists throughout the country who monitor compliance with Federal laws and safety regulations for quiet zones, Emergency Notification Systems (ENS) at highway-rail and pathway grade crossings, and highway-rail and pathway crossing inventory reporting, as well as programs related to trespassers on railroad property.

Using both this discipline-specific compliance manual and the General Manual will aid FRA and FRA-certified State inspectors in the performance of their duties and in the uniform application of Federal HRGX&TP safety laws and regulations.

Program Goals

The goal of the HRGX&TP safety program is to improve railroad safety by limiting the number of highway-rail grade crossing accidents and incidents of trespass upon railroad property or rights of way. The HRGX&TP safety program strives to reduce errors or defective conditions resulting in collisions between railroad trains or equipment and highway traffic or other road users (cyclists or pedestrians) at or near highway-rail and pathway grade crossings. FRA seeks to achieve the safety program's goals through effective oversight of the level of compliance with the Federal requirements related to quiet zones, ENS signs, and crossing inventory reporting, as well as oversight of programs and processes aimed at reducing incidents of trespass on railroad property or rights of way.

While FRA recognizes that railroads might not eliminate all possibility of collisions at grade crossings and incidents of trespass, FRA does believe it is possible to significantly reduce the number of rail-related accidents by promoting compliance with its regulations. One of FRA's goals aims to significantly reduce the number of grade crossing and trespass accidents and incidents while also reducing their severity.

Personal Safety

Federal and State Inspectors and Grade Crossing and Trespassing Regional personnel must make a conscious effort to maintain their personal safety and the safety of those with whom they are working. Inspectors should watch for and voice a cautionary warning if they see any train movement or any condition that might imperil members of the inspection group. Inspectors should be especially alert and attentive when riding on the rails in hi-rail vehicles. The safety of everyone in the vehicle makes it imperative that each person aboard understands the railroad operating rules and authority limitations under which they operate. Each person must be aware that their actions and vehicle movements must comply with railroad operating rules and authorities. They must be particularly wary when inspections or investigations are being performed on or around multiple track main lines or an electrified third rail.

If the inspectors have their own safety equipment, they shall use it. If the railroad provides other additional safety equipment and requests that it be used, inspectors shall comply with the railroad's request.

On-the-Job Training (OJT) Program

The HRGX&TP OJT program is the consensus product of the Technical Training Standards Division (TTSD). The methodology used in development of the program includes validation of the standards against the inspection program activity codes, as well as the policies and guidelines available in the enforcement manuals and technical bulletins. These standards supersede any previous methods the organization has used to evaluate proficiency levels of new inspectors. The HRGX&TP OJT program includes the following standards/duties:

- Apply 49 CFR Part 222, Use of Locomotive Horns at Highway-Rail Grade Crossings
- Apply 49 CFR § 229.129, Locomotive Horn – Testing and Measurement Standards for Train Horn
- Apply 49 CFR Part 234, Subpart E – Systems for Telephonic Notification of Unsafe Conditions at Highway-Rail and Pathway Grade Crossings
- Apply 49 CFR Part 234, Subpart F – National Highway-Rail and Pathway Crossing Inventory Reporting Requirements
- Perform Complaint Investigations
- Conduct Inspections and complete Railroad Inspector Information System (RISPC) 6180.96 inspection reports
- Identify and Investigate High Trespass Activity locations and Propose mitigation measures

The OJT process is described in the HRGX&TP manual and those involved in the process should note the "Conditions" column, which places responsibility on the organization to provide the tools, equipment, documentation, and practice necessary for a new inspector to achieve the standards. The HRGX&TP OJT standards are intended for Federal Highway-Rail Grade Crossing Inspectors.

The HRGX&TP regional grade crossing specialists and inspectors should become familiar with the instructions and guidelines associated with the OJT program and ensure that the standards are followed regarding new Highway-Rail Grade Crossing inspectors. HRGX&TP personnel should become familiar with the section of the OJT Manual that outlines roles and responsibilities. Computerized versions of the OJT Manual and the training verification forms can be obtained by contacting TTSD personnel or visiting the GXTP internal homepage at https://franetcms.fra.dot.gov/FRA-Offices/Office-of-Railroad-Safety-RRS/Office-of-Safety-

Analysis-RRS-20/Trespass-Resources-Hub/Overview

Railroad Crossing Safety and Trespass Prevention Resources

The following materials can be accessed on the Grade Crossing Safety and Trespass Programs Division SharePoint site and/or FRA's external website, www.fra.dot.gov:

- FRA Office of Railroad Safety General Manual
- Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossings, Sixth Edition (2013)
- FRA Right-of-way Fatality and Trespass Prevention Workshop reports (2012, 2013, and 2015)
- Rails-with-Trails: Lessons Learned
- Secretary's Action Plan on Highway-Rail Crossing Safety and Trespass Prevention (2004)
- Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices
- FHWA Railroad-Highway Grade Crossing Handbook (2007)
- Guide for Preparing U.S. DOT Crossing Inventory Forms
- Compilation of Pedestrian Safety Devices in Use at Grade Crossings
- FRA's GX Dash! Data Visualization Tool
- FRA's Trespass and Suicide Dashboard

Chapter 2 – Personnel

HRGX&TP Headquarters (HQ) Division Staff (RRS-23)

The FRA Headquarters (HQ) staff is comprised of a Staff Director, four Transportation Analysts, two General Engineers, and a Program Specialist. The Transportation Analyst and General Engineers, also referred to as HQ staff members, are responsible for the technical oversight of all HRGX&TP discipline functions and outcomes within the Nation in the categories that are specifically assigned to them by the Staff Director. HQ staff members are also responsible for providing the associated guidance necessary to achieve the highest possible level of uniform application of Federal rail safety laws, regulations, procedures and orders pertaining to the HRGX&TP Division. HQ staff members serve as the nationwide technical experts and advisors on specific HRGX&TP matters as assigned by the Staff Director.

HRGX&TP Staff Director

The Staff Director provides general technical review, evaluation, and analysis of the activities and outcomes of all inspection, enforcement, and investigation functions of the respective discipline. The Staff Director assigns and coordinates this oversight by specific category among HQ staff members.

Major Responsibilities and Duties

In this capacity, the Staff Director performs the following duties:

- Provides guidance, direction, and advice to all personnel of the discipline to obtain the highest possible level of uniform application of HRGX&TP regulations.

- Directs the implementation of national enforcement policies and programs and assists in determining compliance with Federal railroad safety regulations, laws, and standards involving HRGX&TP discipline matters.

- Appropriately advises and involves field personnel on projects within RRS-23 and provides the guidance necessary for their development and implementation.

- Advises FRA senior leadership on railroad safety issues or concerns related to HRGX&TP discipline matters having railroad system, regional, or national impact, and makes suggestions or recommendations regarding the revision of agency policies, procedures, and specific activities included in the National Safety Program Plan (NSPP) or the National Inspection Plan (NIP).

- Represents FRA in contact with the railroad industry, other governmental agencies, unions, and civic and private groups related to all HRGX&TP discipline matters. Through these contacts, FRA can evaluate assigned activities and ensure that the railroad

industry and the public have a better understanding of FRA's HRGX&TP programs and functions.

HRGX&TP HQ Transportation Analyst (Railroad Trespassing)

The two Transportation Analysts for railroad trespassing serve as senior staff analysts and advisors for FRA and provide initiative and leadership in the planning, development, implementation, assessment, and coordination of Federal, State, and industry programs that address grade crossing safety and trespass prevention. The two Transportation Analysts' work focuses on railroad trespassing and projects stemming from the Secretary of Transportation's Action Plan on Highway-Rail Crossing Safety and Trespass Prevention.

Major Responsibilities and Duties

In this capacity, the Transportation Analyst performs the following duties:

- Reviews and analyzes current regulations to recommend any needed changes and develop new regulatory initiatives.

- Analyzes proposals for high-speed rail corridors and new technology facilities and makes recommendations to ensure that they include crossing safety and trespass prevention considerations; liaises and coordinates with promoters, Federal and State government offices, and industry, academic, and public interest groups; and makes recommendations to assure acceptance and compliance for appropriate Federal Regulations.

- Makes recommendations for and coordinates programs with FRA's Office of Research, Development & Technology (RD&T) and other research entities.

- Writes a variety of draft materials for review such as reports, briefing materials for the FRA Administrator, and legislative proposals.

- Initiates and coordinates programs promoting safety initiatives to advance the objectives in the Secretary's Action Plan on Highway-Rail Grade Crossing Safety and Trespass Prevention.

- Develops, implements, coordinates, and monitors FRA involvement in programs intended to prevent or reduce trespassing and trespasser casualties on railroad properties and programs designed to improve highway-rail grade crossing safety.

- Provides liaison, coordination, and assistance in obtaining public answers or information on trespasser and grade crossing safety programs for officials from the rail industry, suppliers, law firms, labor, all departments and branches of government (including FRA Regional Offices), research organizations, the academic community, and the public.

- Coordinates grade crossing safety and trespass prevention elements of special assessments and corridor review programs.

- Gives presentations at meetings and regional and national conferences of transportation, law enforcement, and national associations interested in railroad safety.

- Represents FRA on the Department of Transportation's (DOT) Crossing Safety Improvement Team and in liaison activities with other Federal and national entities.

- Facilitates communication between railroads and Federal, State, and local government offices when necessary.

- Working through FRA's Regional Managers and Grade Crossing Inspectors for Crossing Safety and Trespass Prevention Programs, monitors and facilitates the participation of State and local governments, and especially small railroads, ensuring their awareness of programs, options, and resources, including training and inclusion in Federal, State, and industry trespasser prevention and crossing safety-related programs.

HRGX&TP HQ Transportation Analyst (Train Horn)

The Transportation Analyst for train horns identifies and defines internal and external requirements and strategies for implementation of FRA's regulation on the Use of Locomotive Horns at Highway-Rail Grade Crossings (Train Horn Rule), in addition to mediating solutions to Train Horn Rule concerns and issues.

Major Responsibilities and Duties

In this capacity, the Transportation Analyst performs the following duties:

- Provides guidance on implementing the Train Horn Rule, serves as team lead for any review and revision, and updates the Train Horn Rule section of the FRA website with new developments.

- Maintains the Train Horn Rule electronic database. Continuously analyzes issues, concepts, and data to determine methods to improve railroad, highway, and pedestrian safety and ensure compliance with the Train Horn Rule.

- Serves as the point of contact for the GAO audit on FRA's implementation of 49 CFR Part 222, Use of Locomotive Horns at Public Highway-Rail Grade Crossings.

- Reviews and analyzes quiet zone applications proposing the use of Alternative Safety Measures in lieu of Supplemental Safety Measures.

- Analyzes the effects of quiet zone implementation on safety and periodically conducts evaluations of the effectiveness of supplemental safety measures.

- Ensures that the Nationwide Significant Risk Threshold (NSRT) is periodically recalculated and a Federal Register Notice is published annually.

- Ensures that the Quiet Zone Risk Index is recalculated annually for quiet zones that have been established in relationship to the NSRT.

- Participates in outreach communications to ensure that quiet zone communities are well-informed of any deadlines related to the Train Horn Rule.

- Conducts analyses on the impact of various safety initiatives, strategies, and procedures designed to improve grade crossing safety. Provides innovative solutions, where appropriate, to enhance safety.

HRGX&TP HQ Transportation Analyst (State Action Plans and Train Horn)

The Transportation Analyst serves as a senior staff analyst/advisor to assist with implementation of FRA's regulation on the Train Horn Rule, coordinates the development of new outreach materials, assists with Rail Safety Improvement Act (RSIA08) requirements, and works on commercial motor vehicle crossing safety issues.

Major Responsibilities and Duties

In this capacity, the Transportation Analyst performs the following duties:

- Initiates and coordinates programs to promote the advancement of the objectives in the Secretary's Action Plan on Highway-Rail Crossing Safety and Trespass Prevention and crossing safety and trespass prevention activities.

- Plans, analyzes, and executes new and existing programs of outreach initiatives, including the identification of a program's objectives, policy assumptions, priorities, management methods, and achievements.

- Reviews and analyzes current safety initiatives and FRA regulations to recommend needed changes and develops new initiatives or research efforts.

- Conducts analyses and provides recommendations, information, and guidance to senior FRA leadership regarding program initiatives.

- Provides program advice and assistance to the Staff Director for Highway-Rail Grade Crossing Safety and Trespass Prevention.

- Engages in extensive coordination with high-level officials within FRA, Federal, State, and local government agencies, the railroad industry, labor, and the public regarding safety initiatives, regulations, and Congressional mandates designed to reduce injuries and fatalities at grade crossings and along railroad rights-of-way.

- Serves as an expert in the administration of the Train Horn Rule:
    - Identifies and defines internal and external requirements and strategies for implementation of the Train Horn Rule;
    - Analyzes data on implementation of the Train Horn Rule and forecasts its impact upon railroad carriers, the industry, and the general public; and
    - Develops, implements, coordinates, and monitors FRA involvement in programs intended to ensure compliance with the Train Horn Rule's provisions, with efforts designed for Federal, State and local government agencies, and with the railroad industry, labor, and the public.
- Serves as the principal point of contact for the Highway-Rail Grade Crossing and Trespass Prevention Division to develop and market public outreach material based on targeted audiences.
- Serves as the Regional point of contact to the Federal Motor Carrier Safety Administration for the Staff Director for Highway-Rail Grade Crossing Safety and Trespass Prevention.
- Works with other team members and safety partners to coordinate the development of educational and outreach materials, facilitate the production of those materials, and identify resources, which may include multimedia public awareness campaigns, speeches, news releases, presentations, articles, letters, brochures, displays, testimony, briefings, educational handouts, training videos, and web-based applications.
- Gives presentations at meetings and regional and national conferences of transportation, law enforcement, and national associations interested in promoting railroad safety programs.

HRGX&TP HQ Program Analyst (Correspondence)

The Program Analyst for Correspondence manages correspondence assigned to the Highway-Rail Crossing Safety and Trespass Prevention Program team (RRS-23). He or she composes responses to written letters and emails that are processed through the controlled correspondence program and ensures that responses are comprehensive, concise, and contain a minimum of grammatical, punctuation, and spelling errors. The Program Analyst for Correspondence updates iCMS records, provides teammates with a list of overdue reports, and maintains contact with the correspondence team and other RRS-23 employees to ensure that responses are accounted for and that they move through the proper channels in a timely manner.

Major Responsibilities and Duties

In this capacity, the Program Analyst performs the following duties:

- Manages correspondence assigned to RRS-23.
- Delivers correspondence to staff via letter and emails in advance of due dates assigned.
- Updates iCMS records, provides teammates with a list of overdue reports, maintains contact with correspondence team and other RRS-23 employees to ensure responses are accounted for and moved through the proper channels in a timely manner.
- Forwards controls needing regional investigation or input, and drafts an interim response within two working days of receipt.
- Updates Staff Director on a weekly basis on the status of controls.
- Researches requested Freedom of Information Act (FOIA) documentation in iCMS database.
- Assists with the maintenance of the Grade Crossing Inventory System (GCIS *or* Crossing Inventory), and helps update GCIS records.
- Provides assistance to cities and municipalities with updating the Crossing Inventory.
- Provides annual and mid-year reports regarding the status of Crossing Inventory data.
- Oversees monthly and semi-monthly reports for submission to the Crossing Inventory contractor to ensure accuracy of their inventory database.
- Reviews and revises the Inventory Program Website information as issues change or need updating.
- Tracks the input of quiet zone data to ensure all information submitted by states and municipalities is complete and correctly entered into the iCMS database before submitting to the contractor.
- Reviews incoming Inventory update submittals, both from regular Inventory update submitters and those connected with quiet zones, for correctness and proper format that is required for processing by the data processing contractor.
- Contacts cities and municipalities about errors found in quiet zone inventory forms. Forwards updated inventory forms to the contractor to ensure that Crossing Inventory records are updated and processed for submission in a timely manner.

HRGX&TP HQ General Engineer (Grade Crossing Safety Engineer)

One of the Division's authorized General Engineers serves as an advisor for FRA by providing initiative, leadership, and expertise in engineering review and guidance. The General Engineer works with localities that desire to establish quiet zones, and on issues arising in other railroad corridors, pedestrian or pathway crossings, or in high-hazard crossings and high-speed passenger rail corridors.

Responsibilities and Duties

In this capacity, the General Engineer performs the following duties:

- Serves as team lead for addressing engineering solutions for the improvement of crossing safety and trespass prevention.

- Develops safety standards for passive highway-rail grade crossing safety devices, including highway signs, and pavement markings, in partnership with transportation industry experts, safety advocates, and State and Federal transportation agencies.

- Develops and implements safety strategies for use in quiet zone and other railroad corridors, pedestrian or pathway crossings, and at high-hazard crossings and high-speed passenger rail corridors.

- Evaluates the usefulness of safety data and the existing engineering practices for private highway-rail grade crossings.

- Monitors and ensures that National Transportation Safety Board (NTSB) recommendations are responded to within FRA guidelines.

- Examines the various causes of blocked grade crossings and explores possible mitigation strategies to prevent or reduce the impact of such events.

- Enhances agency trespass prevention efforts through the technical review of proposed trespass prevention programs, documents, and outreach efforts.

- Develops and disseminates engineering guidance and advice on site-specific safety mitigation efforts within quiet zones.

- Promotes increased awareness of FRA trespass prevention and law enforcement principles through outreach efforts and educational opportunities created through participation in industry advisory groups and national committees.

- Increases awareness of grade crossing closure and consolidation strategies through cooperative efforts with localities, states, railroad companies, and associations to disseminate and promote best practices and success stories within the industry.

- Represents the Office of Railroad Safety on the DOT Pedestrian and Bicyclist Safety and Accommodations Team.

- Participates with industry and governmental partners in the development and implementation of guidance on strategies to prevent pedestrian accidents and fatalities at or near passenger stations.

- Participates in national and international working groups, including the National Committee on Uniform Traffic Control Devices and the Institute of Transportation Engineers.

HRGX&TP HQ General Engineer (High Speed Rail)

One of the Division's authorized General Engineers serves as an advisor for FRA by providing initiative, leadership, and expertise for FRA High Speed Rail Grade Crossing Projects. The General Engineer focuses on engineering solutions for at grade highway-rail grade crossings or high-hazard crossings within an established or new high-speed rail corridor(s).

Responsibilities and Duties

In this capacity, the General Engineer performs the following duties:

- Promotes corridor review programs with state and national highway engineering groups and provides site and traffic engineering technical advice to corridor and crossing consolidation projects and trespass prevention efforts on High-Speed Rail (HSR).

- Provides advice on the design of highway-rail grade crossing safety improvements and installations, including signage, highway approaches, crossing surfaces, automatic warning devices, warning/barrier systems, and grade separation structures.

- Participates in joint investigations with FRA's Signal & Train Control personnel concerning highway-rail grade crossing active warning systems and related user needs for HSR applications.

- Prepares replies to correspondence from members of Congress, railroads, labor organizations, FRA regional personnel, other agencies, and the public pertaining primarily to highway-rail grade crossing signage, highway approaches, crossing surfaces, automatic warning devices, warning/barrier systems, and grade separation structures and crossing safety issues on HSR lines.

- Promotes highway-rail grade crossing safety with state and national highway engineering groups and the railroad industry.

- Initiates and coordinates programs with RD&T and other research entities (e.g., Federal Highway Administration (FHWA), Federal Transit Administration (FTA), National Highway Traffic Safety Administration (NHTSA), the VOLPE National Transportation

Systems Center, and the Transportation Research Board) to define problems and develop solutions.

HRGX&TP HQ Transportation Specialist (Inventory and ENS)

The Transportation Specialist serves as the senior advisor to FRA overseeing the U.S. DOT National Highway-Rail Crossing Inventory Program and ENS.

Major Responsibilities and Duties

In this capacity, the Transportation Specialist performs the following duties:

- As the program expert on 49 CFR Part 234, Subpart E and Subpart F, provides information for mandatory updating of the Inventory by railroads and for Emergency Notification System (ENS) compliance.

- Makes database queries to analyze the data quality of the Inventory File using available software or by working with other staff data processors.

- Works with the Railroad Safety Information Management System to direct the data processing contractor for inventory data processing, maintenance, and application efforts to meet the requirements of the Inventory rule and develop required solutions.

- Provides technical direction through the Contracting Officer's Technical Representative (COTR) for processing crossing Inventory updates and submittals to ensure the best possible accuracy and quality of the data.

- Provides an annual report regarding the status of crossing Inventory data and national summaries of the crossing data.

- Provides an annual summary of railroads that are not in compliance of 49 CFR Part 234 Subpart E and F.

- Reviews incoming inventory update submittals, for both regular Inventory update submitters and those connected with quiet zones, for correctness and proper format required for processing by the data processing contractor.

- Prepares correspondence, data, studies, work statements, program and specifications, policies, procedures, and instructions requiring significant technical and policy knowledge to efficiently operate the Crossing Inventory program and ENS.

- Responds to stakeholders' questions and concerns about Crossing Inventory data and ENS and assists stakeholders in obtaining information regarding the Inventory program and data from highway-rail Crossing Inventory data file, including accessing data on the FRA website or by special computer queries.

- Responds to inquiries and correspondence from all stakeholders, providing answers and information regarding the background, status, and scope of the Crossing Inventory program and other crossing safety and trespass prevention programs.

- Gathers feedback from States and railroads to determine the greatest needs and difficulties for compliance with FRA's Inventory and ENS regulations and develops strategies for stakeholders to address these issues.

- Prepares clear and concise descriptions, assessments, and rationale for recommendations to improve the data quality of the Inventory Program and Data File, and provides direction to the data processing contractor or other supporting contractors for improvements or correction.

- Reviews and revises the Inventory Program Website information as issues change or need updating.

- Performs an annual review and update to the State and Railroad Inventory Contacts on the FRA website and updates individual contact information when notified by the States and railroads.

- Monitors R&D projects.

- Directs contractors in the development of tools for operations, research, and statistical modeling.

- Serves as the Program Manager for the Grade Crossing Task Force.

- Assists in the development, monitoring, promotion, and assessment of Departmental initiatives regarding highway-rail crossing and pedestrian safety and trespass prevention programs, goals, objectives, and requirements.

- As necessary, assists with the implementation and promotion of the nationwide ENS Program.

- Prepares and reviews correspondence, data, and studies requiring technical and policy knowledge relating to FRA Crossing Safety Programs and plans.

- Participates and performs on teams(s) and/or committee(s) to promote crossing safety, including industry conference planning committees, internal DOT or FRA team groups, externally-established committees for the improvement of crossing safety, and/or professional committees.

- Attends conference(s) with external partners (such as railroads and State DOTs) to provide presentations on the requirements of FRA's Crossing Inventory regulations in 49 CFR Part 234, Subpart F, and the functionality of the Grade Crossing Inventory System.

HRGX&TP HQ Program Support Specialist

Major Responsibilities and Duties

In this capacity, the Program Support Specialist performs the following duties:

- Collects and evaluates data from the regions on their program activities and makes recommendations in writing, including identifying the "best practices" that should be expanded and the activities that should be improved or discontinued. Provides recommendations to the Division Specialists and Division Director.

- Establishes contacts with groups, such as transportation associations and trade associations, among others, to explain the Division's activities and programs to promote and improve safety at highway-rail grade crossings and on railroad property. Makes suggestions to groups on activities they can undertake in information, education, and outreach and provides information and support, as requested.

- Represents the FRA and Operation Lifesaver, Inc. (OL) as a certified OL Presenter by giving presentations to elementary school students throughout the State of Maryland and the District of Columbia concerning grade crossing safety and trespasser prevention.

- Reviews, analyzes, and categorizes public comments on various Division Programs and presents these comments with an assessment of pertinence and validity to a Division Specialist or the Division Director.

- Tracks the Division's designated budget for public awareness and outreach activities, information processing, research, law enforcement, and trespasser prevention initiatives. Monitors the use of the funds in these areas and reconciles the figures with the Office of Railroad Safety's Fund Administrator.

- Coordinates the Office of Railroad Safety's highway-rail grade crossing exhibit during Public Service Recognition Week each year, highlighting the work and accomplishments of the program.

- Makes all logistical arrangements for conferences, to include coordinating with OL staff when necessary on the content of displays and arranging for participation from regional offices. Attends meetings and conferences to set up displays and answer questions from participants about FRA and OL activities to promote safety at highway-rail crossings and to reduce incidents involving trespassers on rail property.

- Distributes and maintains supplies of promotional and display materials about the Division's programs and updates conference displays as needed.

- Provides required clerical and administrative office assistance and support, including, but not limited to, the following:

- Receives and screens all incoming mail for the Division.

- Receives, tabulates, and distributes telephone messages to appropriate staff members in a timely fashion.

- When possible, handles requests for information and assistance.

- Prepares routine tasking directives or forwards endorsements without direction, based upon knowledge of office operations.

- On own initiative, determines information needed for reply to inquiries on administrative matters and office procedures.

- Drafts correspondence in final form by adapting, consolidating, and highlighting information into a format which most effectively answers inquiries.

- Implements the Division's records management program in accordance with procedures established by the Administrative Assistant to the Director, Office of Safety Analysis, and with directives and policies established by the Office of Railroad Safety Records Manager.

- Maintains office files and reference materials in accordance with established procedures. Maintains, updates, files, and purges appropriate reference materials, such as Federal and Departmental regulations, policies, and directives for use in the performance of the office mission.

- Prepares requests for personnel action, including employee performance appraisals, award nominations, training requests, and other tasks. Reviews prepared material for accuracy of form and completion.

- Proficient in the Division's word processing network system, can input, edit, or retrieve correspondence or material on short notice. Functions as the network's systems administrator to ensure proper functioning and to assist and train other employees in the office. Proficient in spreadsheet software, such as Excel, monitors expenditures or performs other administrative or program purposes.

HRGX&TP HQ Program Analyst

The Program Analyst serves as a staff analyst/advisor for the agency and provides analytical and evaluative work in the planning, development, implementation, assessment, and coordination of Federal, State, and industry programs that address grade crossing safety and trespasser prevention safety and regulatory issues.

Major Responsibilities and Duties

In this capacity, the Program Analyst performs the following duties:

- Using statistical analysis and modeling, evaluates the effects of changes in highway-rail grade crossing safety and trespass prevention within the National Railroad System (NRS) that might affect system factors such as safety, costs, efficiency, and service.

- Implements new and improved ways of using accident/incident data and computerized technology to improve highway-rail grade crossing and trespass prevention safety.

- Develops and specifies methods, techniques, and instruments to be used in the study of safety regulations for the Highway-Rail Crossing and Trespass Programs Division.

- Expands and enhances new methods, particularly ones that utilize statistical skills (e.g., risk, probability theory, performance-based risk analysis, measurement of central tendency, dispersion, skewness, sampling error, simple and multiple correlation, analysis of variance, and tests of significance) to be employed when the information available is inadequate.

- Leads subject-matter teams and provides technical direction to contract personnel. Develops creative solutions for challenges faced by subject-matter and contract teams.

- Obtains information for model inputs and determines appropriate measures for model variables.

- Prepares, develops, and drafts technical reports and Congressional inquiries related to the causes of highway-rail grade crossing and trespass accidents.

- Plans and designs studies and conducts analysis to determine the feasibility of proposed changes and their effects on highway-rail grade crossing and trespass prevention control strategies and procedures within the NRS. Determines actions required to improve highway-rail grade crossing and trespass prevention safety performance.

- Studies, analyzes, recommends, and implements new and improved ways of using accident/incident data and computerized technology to foster improvements in highway-rail grade crossing and trespass prevention safety. Makes recommendations that enable FRA management, Federal and State agencies, and the railroad safety community to evaluate data and to generate analytical reports.

- Collects, collates, maintains, and disseminates information, data, files, and procedures in support of Federal, State, and industry highway-rail crossing and pedestrian safety, trespass prevention, and casualty prevention programs.

- Develops and reviews proposals and reports and participates in the definition of research needs and project descriptions regarding safety at highway-rail crossings. Monitors

research activities of agency contractors, other Federal and State government offices, and industry and academic entities.

- Participates in the establishment and development of highway-rail crossing and pedestrian safety and trespass prevention programs by the industry and States.

HRGX&TP HQ Transportation Analyst (Outreach)

The Transportation Analyst assists in the initiation and coordination of programs to advance the objectives in the Secretary's Action Plan on Highway-Rail Crossing Safety and Trespass Prevention and crossing safety and trespass prevention activities required in RSIA08 and the Fixing America's Surface Transportation (FAST) Act. Reviews and analyzes current safety initiatives, recommends improvements, and develops new initiatives or research efforts. Produces a wide variety of materials, including reports, briefing materials for the FRA Administrator, and legislative proposals. Coordinates with officials within FRA, Federal, State, and local government agencies, as well as the railroad industry, labor, and the public concerning the Secretary's Action Plan, RSIA08, and the FAST Act.

Major Responsibilities and Duties

In this capacity, the Transportation Analyst performs the following duties:

- Reviews and monitors the promotion of on-going safety programs in the Division to assure proper application and utilization of agency resources. Makes recommendations based on findings and experience, and as required, prepares a variety of formal and informal proposals and reports pertaining to such activities.

- Serves as a point of contact for program outreach initiatives. Initiates public awareness opportunities with Operation Lifesaver, Inc., the transportation industry, DOT modes, Federal, State, and local agencies, Congress, safety associations, media, schools, and the general public by:

    - Serving as the principal Point of Contact for the Highway-Rail Grade Crossing and Trespass Prevention Division for developing and marketing public outreach material based on targeted audiences.

    - Working with other team members and safety partners to coordinate the development or editing of educational and marketing materials.

    - Facilitating the production of materials, including multimedia public awareness campaigns, speeches, news releases, presentations, articles, letters, brochures, displays, testimony, briefings, educational handouts, training videos, and web-based applications.

- Coordinating the development and distribution of national public outreach materials for use by FRA's Highway-Rail Grade Crossing and Trespass Prevention Programs Division.

- Presenting on railroad safety at regional and national meetings and conferences for transportation stakeholders, law enforcement, and other interested national entities.

- Plans and executes information strategies to disseminate results of successful projects, individual success stories from the field, and proposals to further the highway-rail crossing safety and trespass prevention program.

- Identifies, summarizes, and analyzes public comments submitted on national, regional, and local highway-rail crossing safety and trespass prevention programs with the assistance of the Crossing Managers and under the oversight of the Staff Director.

- Advises Staff Director and other interested or involved FRA/DOT personnel on responses received from various customers, partners, or the general public.

- Participates in the establishment and development of highway-rail crossing and pedestrian safety and trespass prevention programs by the industry and States.

- Serves as an active member of the Highway-Rail Crossing Safety and Trespass Prevention Team, which proposes, establishes, maintains, and disseminates safety measures, trends, and thresholds.

- Implements new and improved ways of using accident/incident data and computerized technology to improve railroad industry highway-rail grade crossing and trespass prevention safety.

HRGX&TP Regional Staff

Each regional safety office consists of a Grade Crossing Specialist along with several Grade Crossing Inspectors (GXI) and a Crossing and Trespassing Regional Manager who collectively are responsible for administering the NIP and NSPP and the overall planning, direction, organization, management of resources, and administration of Grade Crossing and Trespassing regional assigned safety programs, throughout the region. Each region within the assigned geographic jurisdiction conducts inspection activities to ensure the safe operation of railroads. As FRA transitions from regional grade crossing managers to grade crossing inspectors, some regions may employ both. These regional teams report to the Deputy Regional Administrator and seek guidance from HQ staff.

HRGX&TP Regional Specialist

The Grade Crossing Specialist (GXS) serves as first line supervisor for the GXI and a team leader for the Crossing and Trespassing Regional Managers. GXS communicates effectively with inspectors, crossing and trespassing regional managers, and trainees in a manner that fosters

a clear understanding of work assignments, responsibilities, and completion dates. The GXS provides direct reports with constructive, meaningful, and objective feedback utilizing the Inspector Competency Model. The GXS provides mentoring and coaching to inspectors and trainees to further their development and improve overall job performance. Additionally, the GXS is responsible for overseeing the investigations of trespassing incidents on railroad property in order to drive programs aimed at preventing future trespassing.

Major Responsibilities and Duties

In this capacity, the GXS performs the following duties:

- Investigates Highway/Rail Grade Crossing and Trespasser accidents in line with the Government Performance and Results Act.

- Conducts quarterly review of accident/incident data and provides appropriate recommendations to inspectors. Uses database reports and interface with inspectors and administrative staff to ensure data submitted by inspectors is reasonably correct.

- Manages the regional NIP relating to Grade Crossings to ensure effective execution of the plan's targets, and recommends appropriate adjustments to meet changing conditions and enhance railroad safety.

- Develops and manages the region's Grade Crossing NSPP as follows:

    - Coordinates with Grade Crossing staff director to design plans to increase grade crossing safety.

    - Appropriately distributes assignments so that work is effectively accomplished in a timely, accurate manner to maximize efficiency, responsiveness, and customer service.

    - Supports Office of Railroad Safety NSPP initiatives.

    - Provides appropriate and timely guidance to inspectors to supplement and enhance NIP and NSPP program efforts.

- Fosters and participates in FRA risk reduction programs as opportunities arise.

- Ensures that performance plans for inspectors are aligned with FRA's organizational goals and objectives and that inspectors are appraised realistically against clear, measurable standards of performance.

- Monitors inspector expenditures to ensure efficient use of regional funds while maximizing inspection productivity.

- Communicates performance plans and ratings to employees in face-to-face meetings whenever possible.

- Engages employees in interactive feedback about performance expectations, strengths and weaknesses, consequences of poor performance, and barriers to getting the job done. Submits awards and recognition requests in a timely manner in accordance with DOT and FRA policy.

- Conducts face-to-face learning and development (non-punitive) core competency and RSIA08 discussions with each direct report at least once annually.

- Ensures that all inspectors and trainee positions receive appropriate OJT in accordance with the procedures prescribed in the Training Standards developed by the Technical Training Standards Division (TTSD) along with annual DOT IT security training and all other annual training required by the Department (e.g., No-FEAR Act, Bloodborne Pathogens, etc.)

- Handles requests for reasonable accommodation promptly and appropriately in accordance with DOT Order 1011.1, "Procedures for Processing Reasonable Accommodation Requests by Employees and Applicants with Disabilities," and ensures compliance with Federal laws, regulations, and agency policies.

- Fosters a working environment free from discrimination and/or harassment by:

    - Promptly responding to allegations of discrimination and/or harassment by initiating appropriate action to address and rectify the situation.

    - Taking timely corrective action in accordance with Departmental and Operating Administration policy if sexual harassment or other discriminatory/unfair treatment is observed, reported, or suspected.

    - Complying and cooperating with and otherwise supporting the efforts of equal employment opportunity counselors, mediators, investigators, and others responsible for processing complaints and grievances.

- Effectively communicates to internal/external stakeholders and staff the direction of safety goals, initiatives, and strategies.

- Ensures stakeholder needs and expectations are identified and considered when making decisions, identifying solutions, and resolving conflicts.

- Utilizes Railroad System Oversight Managers when conducting listening sessions with external stakeholders.

- Serves as FRA's Regional Operation Lifesaver (OL) partner, which includes functioning as the regional liaison through which OL information, procedures, and programmatic data

are passed to appropriate FRA individuals; maintaining a close partnership with OL State Coordinators, providing them periodic summaries of FRA activities in their states; assisting in the planning and execution of OL programming, activities, workshops, and presentations; and ensuring appropriate FRA representation at state OL activities.

- Determines and administers reasonable balance of inspection effort based on Regional Inspection Points (RIP), Railroad Inspection System for PC (RISPC) and Accident/Incident data, and geographical size of the districts that inspectors are required to cover.

- Carefully and promptly prepares and/or reviews and evaluates technical reports (e.g., inspection and violation reports, complaint investigation reports, accident investigation reports, waiver application investigation reports, and other discipline specific reports) for technical completeness and accuracy and for conformity to applicable laws, rules, regulations, procedures, manuals, orders, published guidelines, technical bulletins, and other FRA policy, manuals, and guidelines. Promptly revises and/or directs the revision of reports when necessary, and assists inspectors in identifying needs and improving their report writing skills as needed.

- Promptly and accurately prepares and transmits memoranda, documents, and close-out letters, and ensures the timely processing of reports in accordance with established policy, procedures, and timeframes.

- Monitors FRA Dashboard bi-weekly to ensure timely correction/response to critical elements (e.g., remedial action status, inspection reports in error, inspector uploads, and missing transmittals and/or violations).

- Effectively integrates State Participation Programs into Regional activities (State/FRA Safety Plans).

- Handles complaints associated with train horn, highway-rail grade crossing, and trespasser issues. Makes recommendations to resolve complaint and/or improve safety.

- Serves as the subject matter expert on 49 CFR Part 222, Train Horn/Quiet Zone Rule, and coordinates Regional assistance to public authorities regarding the implementation and maintaining quiet zones.

- Participates in senior Class I railroad, Intercity Passenger, and regional commuter leadership meetings to discuss regional compliance issues and maintain open lines of communication.

- Establishes and maintains effective communication with all other regional and short line railroad(s) senior management.

- Participates in senior regional labor leader meetings to discuss regional compliance issues and maintain open lines of communication.

- Provides subject matter expertise at educational seminars with the railroad and public communities.

- Supports regional start-up intercity passenger rail projects/initiatives by providing appropriate educational outreach with respect to FRA regulations.

- Collaborates with Federal and State agencies regarding regional start-up intercity passenger rail projects/initiatives.

HRGX&TP Grade Crossing Inspector (GXI)

The GXI conducts enforcement and compliance safety inspections of highway-rail grade crossings systems and programs for the purpose of determining compliance with Federal rules and regulations pertaining to 49 CFR Part 222 and Subparts E and F of 49 CFR Part 234. The GXI writes reports of these inspections and recommends enforcement and/or compliance actions when violations are found. Additionally, the GXI, when instructed, is responsible for investigating trespassing incidents on railroad property to drive programs to prevent trespassing on railroad property which leads to accidents and injuries. The GXI develops and executes regional programs to reduce railroad grade crossing and trespassing incidents and accidents.

Major Responsibilities and Duties

In this capacity, the GXI performs the following duties:

- Performs FRA enforcement and compliance Inspections for compliance with 49 CFR Part 222, Use of Locomotive Horns at Public Highway-Rail Grade Crossings, and Subpart E of 49 CFR Part 234, Emergency Notification Systems for Telephonic Reporting of Unsafe Conditions at Highway-rail and Pathway Grade Crossings, and Subpart F of 49 CFR Part 234, Highway-Rail and Pathway Crossing Inventory Reporting.

- Performs inspections of railroad ENS and timely submits railroad copies of FRA Inspection reports (F 6180.96) in RISPC. Also provides the responsible railroad official(s) with a copy of the relevant inspection report(s).

- Performs inspections to determine compliance with FRA regulations governing reporting to the U.S. DOT Crossing Inventory (49 CFR Part 234, Subpart F). Timely submits railroad copies of FRA Inspection reports (F 6180.96) in RISPC and provides the responsible railroad official(s) with a copy of the relevant inspection report(s). Also notifies designated State DOT point of contact if there are discrepancies between actual conditions at the crossing and the information reflected in the State-assigned data fields on the Inventory Form.

- Investigates, independently or as part of a team, grade crossing collisions and trespasser(s) incidents/accidents as assigned. Prepares any necessary analysis and recommendations to the Grade Crossing Senior Manager/Specialist.

- Performs quiet zone reviews to ensure compliance with the Train Horn/Quiet Zone Rule (49 CFR Part 222). Provides copy of the relevant inspection report(s) to the individual designated in the Notice of Quiet Zone Establishment (or his/her designee) to monitor quiet zone compliance with 49 CFR Part 222.

- Where noncompliance of Federal regulations is noted, provides FRA recommendation(s) for corrective actions. If the condition presents a serious hazard, a violation is recommended.

- Reviews and evaluates petitions for waiver of Federal regulations applicable to highway-rail crossing safety, such as 49 CFR Part 222 (Train Horn Rule) and 49 CFR Part 234, Subparts E and F (ENS and Crossing Inventory rules). Makes recommendations to HQ staff for approval or rejection of waiver petitions.

- Participates as part of a highway-rail grade crossing corridor diagnostic team to evaluate improvements to highway-rail grade crossings, including recommendations for new installations or upgrades to warning systems and crossing closures.

- Promotes DOT and FRA crossing safety and trespasser prevention programs and new initiatives within the Region's assigned geographical area. Reviews draft FRA policy initiatives and provides comments and recommendations to the Deputy Regional Administrator and Senior Grade Crossing Manager/Specialist.

- Serves as a subject matter expert on 49 CFR Part 222, Train Horn/Quiet Zone Rule, and coordinates Regional assistance to local public authorities regarding implementation of Train Horn/Quiet Zone Rule.

- Investigates complaints from railroad employees, union officials, local law enforcement, and the public regarding unsafe highway-rail crossing conditions (e.g., vegetation and/or other obstructions, preemption, ENS signs, quiet zone issues) and other topics involving grade crossing and railroad trespassing issues (e.g., excessive use of train horns, rough and/or blocked highway-rail grade crossings).

- Conducts special projects/studies regarding highway-rail grade crossing and trespasser issues as assigned. Contacts appropriate sources to gather data and documents, prepares summary of investigation and/or complaint, and makes recommendations.

- Determines the need and conducts safety meetings and training sessions for railroad employees, local law enforcement, and emergency response organizations regarding proper actions around highway-rail crossings and at trespassing sites.

- As part of the regional contribution to the national effort, assists in the development of new and emerging technologies for highway-rail crossing apparatuses and concepts. Investigates carrier and/or manufacturer development of new state-of-the-art highway-rail crossing apparatuses and concepts, and provides the Region's Supervisory Grade Crossing Specialist an evaluation of such new developments.

- Establishes and maintains personal contacts with division level Federal Highway Administration (FHWA), Federal Transit Administration (FTA), National Highway Traffic Safety Administration (NHTSA), Federal Motor Carrier Administration (FMCSA) and State and local officials to provide departmental cooperation in improving grade crossing safety and trespassing prevention activities.

- Works with stakeholders on the development and implementation of highway-rail crossing safety and trespasser prevention programs.

- When requested, serves as a regional subject-matter expert for the Operation Lifesaver program. Functions as the regional liaison through which OL information, procedures and program data are passed to appropriate FRA individuals. Maintains partnership with OL State Coordinators. Assists in the planning and execution of OL programming, activities, workshops and presentations.

- Represents FRA while participating in initiatives, studies, surveys, reviews, outreach, and activities relating to highway-rail crossing and trespasser programs with local communities, States, the railroad industry, and FRA's safety partners.

- Represents FRA before State and local legislatures and planning bodies, as assigned, providing information and accurately communicating Departmental policy regarding grade crossing and trespasser strategies.

HRGX&TP Crossing and Trespassing Regional Manager (GS-13)

The Crossing and Trespassing Regional Manager supports the FRA Highway-Rail Grade Crossing Safety and Trespasser Prevention Programs Division and the relationship between the FRA Office of Safety Analysis to the Region and the individual States and districts. He or she is assigned to an FRA Regional Office and serves as the senior manager on grade crossing and trespassing issues. This position reports directly to the Deputy Regional Administrator and seeks guidance from HQ Staff.

Responsibilities and Duties

In this capacity, the Crossing and Trespassing Regional Manager performs the following duties:

- Serves as the program manager for the highway-rail grade crossing safety and trespasser prevention programs division within the Region. Specifically, the Crossing and Trespassing Regional Manager:

    - Develops and ensures implementation of an annual comprehensive program to address the needs in the National Safety Program Plan and the requirements identified by the Regional Administrator and the Deputy Regional Administrator and provides guidance to Grade Crossing Inspector(s).

    - Participates in the policy and planning guidance for the Region.

- Keeps abreast of changes in planning concepts from FRA and ensures they are reflected in the regional operations.

- As the FRA's subject matter expert in the Region, the Crossing and Trespassing Regional Manager:

  - Promotes all DOT and FRA crossing safety and trespasser prevention programs and new initiatives within the Region's assigned geographical area.

  - Reviews draft FRA policy initiatives and provides comments and recommendations to the Office of Safety Analysis and ensures that FRA policy is initiated in the Region.

  - Recommends procedures to improve the Highway-Rail Grade Crossing and Trespass Prevention Program.

- Continually monitors and reviews assigned program areas. Specifically, the Crossing and Trespassing Regional Manager:

  - Plans and/or conducts various studies and evaluation activities in assigned segments of the program areas;

  - Obtains necessary information through on-site visits, reports, and contacts with appropriate sources;

  - Translates findings into specific action, including new or revised program requirements, guidance, or other appropriate measures;

  - Reviews and researches "best practice" techniques and practices in the field; and

  - Provides feedback to the Regional Administrator and/or Deputy Regional Administrator on program status and/or recommended actions.

- Facilitates all aspects of handling complaints and investigations regarding highway-rail grade crossing and trespasser issues. Specifically, the Crossing and Trespassing Regional Manager:

  - Contacts appropriate sources to gather data and documents.

  - Prepares summary of investigation and/or complaint and makes recommendations.

  - Makes decisions regarding what actions are necessary to resolve the complaint (e.g., determines whether an investigation is necessary).

  - Assigns the investigation of complaints, when appropriate, monitors the timely

completion of complaints and investigations, and reviews the final reports for accuracy and completeness.

- Serves as subject matter expert on 49 CFR Part 222, Train Horn Rule, and coordinates Regional assistance to local public authorities regarding implementation of quiet zones.

- Establishes and maintains personal contacts with division-level FHWA, FTA, NHTSA, FMCSA, and State and local officials to provide departmental cooperation in improving grade crossing safety and transportation prevention activities. Works with stakeholders on the development and implementation of highway-rail crossing safety and trespasser prevention programs.

- Serves as FRA's Regional Operation Lifesaver (OL) partner by:

    - Functioning as the regional liaison through which OL information, procedures, and programmatic data are passed to appropriate FRA individuals;

    - Maintaining a close partnership with OL State Coordinators, providing them with periodic summaries of FRA activities in their states;

    - Assisting in the planning and execution of OL programming, activities, workshops, and presentations; and

    - Ensuring appropriate FRA representation at state OL activities.

- Participates in assigned investigations of grade crossing collisions and trespasser incidents (but is not required to participate in all crossing or trespasser investigations in the Region).

- Serves as subject matter expert in the review of Grade Crossing and Trespasser accident investigation reports in the Region.

- Maintains files and databases to address regional safety conditions and requirements.

- Prepares detailed analytical reports documenting program accomplishments and shortfalls.

- Represents FRA and the Region while participating in initiatives, studies, surveys, reviews, outreach, and other activities relating to highway-rail crossing and trespasser programs with local communities, States, the railroad industry, and FRA's safety partners.

- Represents FRA before State and local legislatures and planning bodies, as assigned, providing information and accurately communicating Departmental policy regarding crossing and trespasser strategies.

HRGX&TP Crossing and Trespassing Regional Manager (GS-12)

The Crossing and Trespassing General manager supports the FRA Highway-Rail Grade Crossing Safety and Trespasser Prevention Programs Division and the relationship between the FRA Office of Safety Analysis, the Region, and the individual States and districts. He or she is assigned to an FRA Regional Office and serves as a manager on grade crossing and trespass issues. The Crossing and Trespassing Regional Manager reports directly to the Deputy Regional Administrator and seeks guidance from HQ Staff.

Responsibilities and Duties

In this capacity, the Crossing and Trespassing Regional Manager performs the following duties:

- Promotes all Department of Transportation (DOT) and FRA crossing safety and trespasser prevention programs and initiatives within the Region's assigned geographical area.

- Reviews draft FRA policy initiatives and provides comments/recommendations to the senior manager.

- Handles complaints, investigations, and special projects and studies regarding highway-rail grade crossing and trespasser issues, as assigned. Contacts appropriate sources to gather data and documents, prepares summary of investigation and/or complaint, and makes recommendations.

- Serves as a subject matter expert on 49 CFR Part 222, Train Horn Rule, and coordinates Regional assistance to local public authorities regarding the implementation of quiet zones.

- Establishes and maintains personal contacts with division-level FHWA, FTA, NHTSA, FMCSA, and State and local officials to provide departmental cooperation in improving grade crossing safety and transportation prevention activities.

- Works with stakeholders on the development and implementation of highway-rail crossing safety and trespasser prevention programs.

- Serves as FRA's Regional Operation Lifesaver (OL) partner by:

    - Functioning as the regional liaison through which OL information, procedures, and programmatic data are passed to appropriate FRA individuals;

    - Maintaining a close partnership with OL State Coordinators, providing them with periodic summaries of FRA activities in their States;

    - Assisting in the planning and execution of OL programming, activities, workshops, and presentations; and

- Ensuring appropriate FRA representation at State OL activities.

- Participates in assigned investigations of grade crossing collisions and trespasser incidents. Prepares any necessary analysis and sends recommendations to the senior manager.

- Maintains files and databases needed to address regional safety conditions and requirements.

- Prepares detailed analytical reports documenting program accomplishments and shortfalls.

- Represents FRA while participating in initiatives, studies, surveys, reviews, outreach, and other activities related to highway-rail crossing and trespasser programs with local communities, States, the railroad industry, and FRA's safety partners.

- Represents FRA before State and local legislatures and planning bodies, as assigned, providing information and accurately communicating Departmental policy regarding crossing and trespasser strategies.

Chapter 3 – Regulations

Basis for Regulation and Inspection

Statutory Authority

FRA's authority to promulgate and enforce rail safety regulations generally derives from the Federal rail safety laws in 49 U.S.C. §§ 20101-21311.

Here is the statutory authority for the specific FRA regulations enforced by HRGX&TP personnel:

- Train Horn/Quiet Zone Rule (49 CFR Part 222): The statutory authority for these regulations can be found in 49 U.S.C. § 20153.

- State Highway-Rail Grade Crossing Action Plans (49 CFR § 234.11): The statutory authority for this regulation can be found in Section 11401 of the Fixing America's Surface Transportation Act (FAST Act), Public Law 114-94.

- Emergency Notification Systems (49 CFR Part 234, Subpart E): The statutory authority for these regulations can found in 49 U.S.C. § 20152.

- Crossing Inventory (49 CFR Part 234, Subpart F): The statutory authority for these regulations can be found in 49 U.S.C. § 20160.

HRGX&TP Regulations

HRGX&TP personnel enforce FRA regulations that:

- Require train crews to sound the locomotive horn when approaching and traveling through public highway-rail grade crossings. FRA regulations also allow public authorities to establish a quiet zone within which routine sounding of locomotive horns at public highway-rail grade crossings is prohibited. However, the engineer or conductor is allowed to use the train horn at his/her discretion if warranted based on obstruction, emergency, or any other instance in which they feel it is necessary.

- Require States to submit and/or update highway-rail grade crossing safety action plans.

- Require railroads to submit and periodically update railroad-related crossing data in the Crossing Inventory.

- Require railroads to post ENS signs on each approach to highway-rail and pathway grade crossings. ENS signs must contain a telephone number that would allow a member of the public to report unsafe conditions at highway-rail and pathway crossings to the railroad.

CFR Part 222—Use of Locomotive Train Horns at Highway-Rail Grade Crossings—Overview

Under the Train Horn Rule, locomotive engineers must begin to sound train horns at least 15 seconds, and no more than 20 seconds, in advance of all public grade crossings. If a train is traveling faster than 60 mph, engineers must not sound the horn until it is within ¼ mile of the crossing, even if the advance warning is less than 15 seconds. There is a "good faith" exception for locations where engineers cannot precisely estimate their arrival at a crossing and begin to sound the horn no more than 25 seconds before arriving at the crossing. Train horns must be sounded in a standardized pattern of 2 long, 1 short, and 1 long blasts. The pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing. The rule does not stipulate the durations of long and short blasts. The maximum volume level for the train horn is 110 decibels, while the minimum sound level is 96 decibels. To view the entire locomotive train horn rule, visit: https://www.fra.dot.gov/Page/P0889.

Establishing Quiet Zones

The final rule also provides an opportunity for localities nationwide to mitigate the effects of train horn noise by establishing "Quiet Zones." "No horn" restrictions, which existed on October 9, 1996 and on December 18, 2003 may qualify to be "Pre-Rule Quiet Zones." In a quiet zone, railroads have been directed to cease the required routine sounding of their train horns when approaching highway-rail and pedestrian grade crossings. Train horns may still be used in emergency situations or to comply with other Federal regulations or railroad operating rules. Localities desiring to establish a quiet zone are first required to mitigate any increased risk caused by the absence of a horn. For further information on how to establish a quiet zone, visit: https://www.fra.dot.gov/eLib/details/L03055.

Title 49 CFR Section 234.11—State Action Plans—Overview

A State Action Plan for highway-rail grade crossings (SAP) is an important part of the grade crossing program management process. The SAP provides a vehicle for States to use a data-driven approach to identify specific strategies for improving safety at their highway-rail grade crossings. However, the SAP can also be adjusted based on, but not limited to, context-sensitive data, incident trends, and regulatory and legislative requirements that apply to highway-rail grade crossings.

Regulatory requirements for the SAP were initially required by Section 202 of the Rail Safety Improvement Act of 2008 (RSIA08), for the 10 States identified with the highest number of reported highway-rail grade crossing collisions from 2006 through 2008. Subsequent to the RSIA08, Section 11401 of the Fixing America's Surface Transportation Act (FAST Act) required that (1) 40 States and the District of Columbia develop and implement an SAP, and (2) each of the 10 States previously required to develop SAPs update their previously submitted SAPs and submit reports to FRA describing actions they have taken to implement them.

Title 49 CFR Part 234, Subpart E—Emergency Notification Systems for Telephonic Reporting of Unsafe Conditions at Highway-Rail and Pathway Grade Crossings—Overview

An Emergency Notification System (ENS) is a system through which a railroad receives, processes, and responds to telephonic reports of unsafe conditions at highway-rail and pathway grade crossings. An ENS system includes the following components:

(1) The signs placed and maintained at grade crossings that display the information necessary for the public to report an unsafe condition at the crossing to the dispatching railroad by telephone;

(2) The method that the railroad uses to receive and process a telephone call reporting the unsafe condition;

(3) The remedial actions that a railroad takes to address the report of the unsafe condition; and

(4) The recordkeeping conducted by a railroad in response to the report of the unsafe condition at the grade crossing.

The ENS Regulations were published in 49 CFR 234, Subpart E on March 15, 2013. The compliance dates related to ENS system implementation have passed. Therefore, railroads should have ENS systems that conform to the regulations. ENS is generally required at all at-grade crossings including:

- Public highway-rail grade crossings
- Private highway-rail grade crossings
- Pedestrian/pathway crossings (public and private)
- Farm crossings
- Grade crossings located within a railroad yard, or certain port or dock facilities

Title 49 CFR Part 234, Subpart F—Highway-Rail and Pathway Crossing Inventory Reporting—Overview

The U.S. DOT National Highway-Rail Crossing Inventory (Inventory) contains detailed information on highway-rail and pathway crossings in the United States. The Inventory has records for all types of crossings including public, private, at grade, and grade-separated crossings.

The Inventory began as a voluntary effort in the 1970s by the railroads and FRA. Congress later passed legislation, the RSIA08, requiring FRA to develop regulations that made Inventory

reporting and updating mandatory for railroads. The regulations were published in 2015 in Title 49 CFR Part 234, Subpart F. States also report a significant portion of the data in the Inventory, but FRA regulations do not require States to report or update crossing data in the Inventory.

The Inventory data is important for States when programming and prioritizing improvement funds for crossings, such as the Section 130 Program. It is also important for other uses, such as academic research projects.

Detailed instructions for inspecting the Inventory for compliance can be found in Appendix A: Inspection Details for Compliance with 49 CFR Part 234, Subpart F, Inventory.

Chapter 4 – Railroad Trespassing

Trespassing on railroad property is the leading cause of all rail-related deaths in the United States. More people are struck and killed by trains each year while trespassing—illegally entering or remaining on a railroad right-of-way—than in motor vehicle collisions with trains at highway-rail grade crossings. Between 2009 and 2018, the annual number of trespass-related pedestrian fatalities increased by 39 percent, from 416 in 2009 to 580 in 2017. In calendar year 2019, 181 pedestrian trespass fatalities had occurred by March 31. Data indicates that the number of trespassing occurrences on railroad property each year far exceeds the number of fatalities and injuries. This raises the serious concern of the greater potential for even more trespasser accidents. For more information, visit: https://www.fra.dot.gov/Page/P0846.

National Strategy to Prevent Trespassing on Railroad Property—Overview

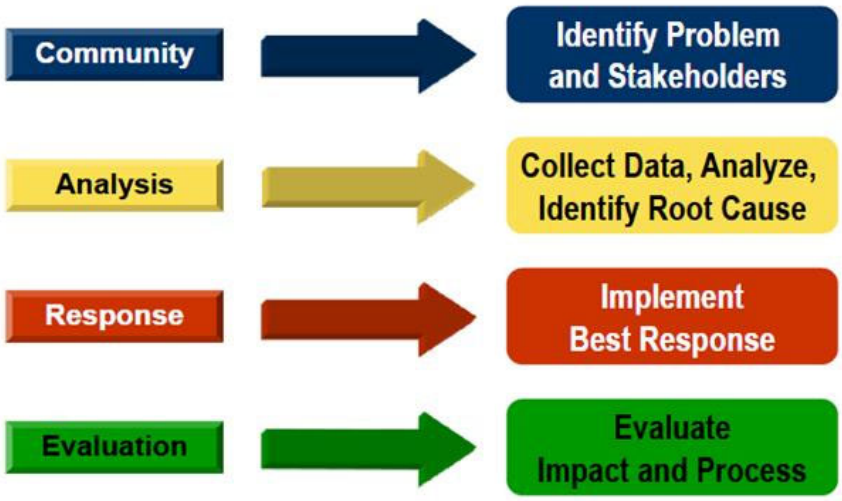
In its report on the Fiscal Year 2018 Department of Transportation appropriation, the U.S. House of Representatives Committee on Appropriations requested FRA to identify and study the causal factors that lead to trespassing incidents on railroad property and develop a National Strategy. FRA's National Strategy to prevent trespassing on railroad property includes four strategic focus areas: data gathering and analysis, community site visits, funding, and partnerships with stakeholders. Data gathering and analysis of trespass incidents and close-calls will enable FRA to target its resources to trespassing "hot spots." Conducting community site visits will help FRA to learn more about the specific local circumstances that contribute to trespassing and work with partners to help implement and evaluate targeted mitigation strategies. Requesting and providing funding will support community-based efforts to deter trespassing. Finally, building strong and enduring partnerships with communities, law enforcement, railroads, and other organizations with a shared interest in saving lives will enable FRA to leverage and concentrate available resources, expertise, and local knowledge to combat trespassing. To access the full report, please visit Appendix C: National Strategy for Trespass Prevention or our website at: https://www.fra.dot.gov/eLib/Details/L19817.

Procedures for Conducting Railroad Trespassing Assessments

FRA regional teams will use a data-driven program to support trespassing prevention activates. FRA expects regional teams to transition into a centrally managed data-driven team by following the milestones outlined in the Guidelines for Transitioning into a Central Managed Team listed in Appendix B: Centrally Managed Data-Driven Outreach Recommendations for Grade Crossing Inspectors and Grade Crossing Trespassing Managers. FRA regional teams will use current, relevant data and analysis to identify systematically high-risk areas for trespassing incidents. Armed with the data, the teams will identify and collaborate with railroads, city leaders, schools, transit systems, law enforcement, social service agencies, and other stakeholders to determine the underlying causes of railroad trespassing. FRA regional teams will work to develop and facilitate implementation of specific mitigation strategies to reduce or eliminate railroad trespassing. Based on what is learned about underlying issues, the teams will identify resources in the community that may be able to assist in the problem-solving process (e.g., parents, neighborhood groups, community organizations, law enforcement, and railroad safety representatives). FRA regional teams will facilitate problem-solving trespasser risk assessments

and community meetings to discuss the issues and develop an action plan for the community with the railroads. FRA regional teams will document and report their findings and activities to FRA headquarters (HQ). FRA regional teams will, when feasible, follow the Community, Analysis, Response, and Evaluation (CARE) model when addressing a trespassing problem in a community.

The CARE model provides a step-by-step process for addressing a trespassing problem in a community. An abbreviated version is listed below. To see the entire version, visit: https://www.fra.dot.gov/eLib/Details/L02620.



Step 1. Identify the Problem

- Identify the trespassing problem in a community in general terms, and identify potential community stakeholders who can assist in your problem-solving efforts.

- Develop a general statement to describe the problem (e.g., "Children are crossing the railway tracks where 8th Street dead ends at the tracks").

Step 2. Identify Resources and Stakeholders

- Based on what you already know about the problem, identify resources in the community that may be able to assist in the problem-solving process (e.g., parents, neighborhood groups, community organizations, law enforcement, and/or railroad safety representatives).

- Identify stakeholders (e.g., local authorities, abutting landowners, etc.).

- Organize a problem-solving meeting with community resources, stakeholders, and related groups to discuss the issue and develop an action plan for the community.

Step 3. Analyze the Cause

(1) Collect detailed information about the trespassing problem and determine its underlying causes through problem analysis, by:

- Gathering incident data from the community, law enforcement reports, and State, County, Municipal, and railroad police.

- Conducting trespass site visits that include all interested parties (e.g., railroads, law enforcement, and city leaders).

- Requesting information from railroad personnel or law enforcement partners about near-miss incidents, areas where trespassers are commonly cited, or paths that have been worn across the tracks.

- Identifying locations where trespassers have received warnings or citations from law enforcement.

(2) Answer the questions "who, what, when, where, why, and how?" in as much detail as possible.

- Who is trespassing (e.g., age, gender, residents/nonresidents)?

- What are they doing when they are trespassing on railroad property (e.g., walking between the rails (gauge); crossing the tracks between authorized crossings; walking along the tracks; riding a bicycle, all-terrain vehicle (ATV), or snowmobile; playing; drinking in the rail yard or on the tracks; or other activity)?

- When does it happen (e.g., time, day of the week, month, and season)?

- Where are they entering the railroad property? Where are they going? Where are they coming from? Where is the property line?

- Why are they trespassing? Why are they not using the closest authorized crossing?

- Why is this section of track or railroad property a tempting shortcut or place to play or loiter?

- How are they entering the railroad property? How are they exiting the railroad property (e.g., crawling through a hole in a fence, climbing over a fence, jumping, entering at a crossing)?

(3) Determine if there are any common factors for the railroad trespassing, such as:

- Destination

- Origin
- Trespasser group
- Reason for trespassing
- Time
- Location
- Point of entry
- Point of exit

(4) Determine the underlying cause(s) of trespassing based on an analysis of the information that you have collected and any common factors that you have identified.

- Write a detailed problem statement describing the underlying cause(s) of the railroad trespassing (e.g., "Children are crossing the railway tracks where 8th Street dead-ends at the tracks."). Then identify and develop specific strategies focused on reducing or eliminating railroad trespassing tied to each underlying cause.
- Identify the scale of the problem: large-scale (whole community/many organizations needed to solve); medium-scale (task force can solve); or small-scale (small group or one to two individuals can solve). In some cases, just identifying and promoting awareness of railroad trespassing may help reduce its occurrence.
- Identify measures that you will use to determine the effectiveness of your strategies (e.g., reduction or elimination of trespassing, increased public awareness).
- Identify any other community resources that may be needed to help solve the problem recognized through your analysis.
- Use the Railroad Inspection System for Personal Computers (RISPC) or FRA Trespass Site Assessment form to document all your findings and resources.

Step 4. Develop and Implement Trespass Mitigation Measures

Identify and/or develop measures to address the underlying cause(s) of trespassing. These measures will fall into one of the following categories:

- Education: new or existing safety programs (e.g., Operation Lifesaver, www.oli.org).
- Engineering/Environmental Design (e.g., a fencing plan, brush removal, etc.).

- Enforcement (e.g., use technology to detect violations, enforce local trespassing laws, etc.).

- Research grant/funding opportunities.

- Other Strategies (e.g., brainstorming with FRA and railroad personnel).

- Once you have identified one or more appropriate measures, implement them

Step 5. Evaluate the Results

(1) Determine if implemented measures were effective, and why or why not.

(2) Evaluate the effectiveness of the implemented measures based on metrics identified in the Step 2 analysis (*see* Appendix B: Centrally Managed Data-Driven Outreach Recommendations for Grade Crossing Inspectors and Grade Crossing Trespassing Managers). Consider both short- and long-term evaluations.

(3) What was the result of your efforts? Was trespassing:

- Displaced (i.e., Did the problem move to a different location)?

- Reduced (i.e., Was there an overall drop in the number of trespassers)?

- Unchanged (i.e., Did the problem remain)?

- Eliminated (i.e., Was the problem solved)?

(4) Evaluate the Process.

- Were the key stakeholders and resources identified and included?

- Were the underlying causes of the trespass problem properly identified?

- Was the implementation process implemented as planned? If not, why not?

- Was any part of the plan not implemented? If not, why not?

- Based on your evaluation of both the impact and process, did you achieve the goal as identified? Why or why not? Is it necessary to return to the analysis step to further consider the problem?

- Based on the response(s) implemented, will this project require a long-term commitment and monitoring? Who will need to be involved? What could happen if the response(s) are left in place? What could happen if they are taken away?

Step 6. Report and Document

FRA regional teams will document and report their findings and activities and provide a written report to FRA HQ, railroads, and community partners using RISPC.

Centrally Managed Data-Driven Outreach Recommendations for Grade Crossing Inspectors and Crossing and Trespassing Regional Managers

These guidelines respond to the following milestone set forth in the first strategic area of the National Strategy for Trespass Prevention on Railroad Property, "Transition from a regionally managed to a centrally managed data-driven program to support trespasser prevention activities."

FRA Headquarters is Responsible For:

FRA HQ will provide quarterly reports to each region that summarize railroad trespassing fatalities and injuries in the region. The reports will provide information about when and where incidents occur, along with near-miss data when available. FRA HQ will develop and customize a trespasser events map using clustering, hot spots, and spatial outliers of the events. These events are located by using values such as "Trespassers within 500 ft. of a Crossing"; "…within 1000 ft. of a Crossing"; "…within 1/2 mile of a Quiet Zone"; "…within 1 mile of a Public School," etc. These analyses will identify patterns spatially and help to evaluate assumptions about trespasser events. This information will be disseminated to FRA regional offices through FRA GIS Online Viewer, email, or an internal trespassing dashboard. Training will be provided through the Technical Training Standards Division and via quarterly conference calls. FRA HQ will conduct quarterly conference calls or meetings with FRA regional teams to receive feedback on information provided to the team, review incidents, and determine if additional data or outreach methods need to be adjusted.

FRA Regional Teams are Responsible For:

FRA regional teams will use the information supplied by FRA HQ and regional data to direct their activities to specific areas and hot spots. Armed with the data, the teams will identify and collaborate with railroads, city leaders, schools, transit systems, law enforcement, social services agencies, and other stakeholders to determine the underlying cause of railroad trespassing. A general statement to describe the underlying causes and contributing factors of railroad trespassing will be developed in each location (e.g., shortcut to recreation facilities). Based on the underlying causes and contributing factors, the teams will identify resources in the community to address the railroad trespassing issues (e.g., parents, neighborhood groups, community organizations, law enforcement, and railroad safety representatives). FRA regional teams, in collaboration with FRA HQ, will facilitate problem-solving trespasser risk discussions with local stakeholders and meetings with communities and railroad representatives to discuss the issues and develop an action plan. FRA regional teams will document and submit a report of their findings and actions to community leaders and FRA HQ.

For complete detail on this Guidance, visit: https://franetcms.fra.dot.gov/FRA-Offices/Office-of-Railroad-Safety-RRS/Office-of-Safety-Analysis-RRS-20/Trespass-Resources-Hub/Overview.

Chapter 5 – Outreach

Outreach is the practice of educating or providing educational materials to populations who might not otherwise have them. HRGX&TP personnel are a key component of FRA's outreach team. The HRGX&TP team plays a vital role in educating the general public about the dangers associated with railroad operations and highway-rail grade crossing and trespassing violations.

All HRGX&TP personnel are authorized and encouraged to provide educational outreach to any member of the general public about the dangers associated with railroad trespassing and highway-rail grade crossing safety issues. HRGX&TP personnel will only use approved safety brochures developed by FRA or by Operation Lifesaver Inc. (OLI). HRGX&TP personnel are encouraged to become active members of their home state OLI program.

In accordance with the FRA memorandum dated June 19, 2009, *Guidelines for Administration of Promotional Items*, FRA staff may purchase or procure promotional items with otherwise available appropriated funds. Such promotional items include, but are not limited to, small items such as coloring books, key chains, hats, lapel pins, pencils, and calendars to support the Department of Transportation's (DOT) and FRA's message on railroad crossing safety and railroad trespass prevention. These items help DOT/FRA communicate safety information and warnings more effectively. FRA staff are authorized to give to the public without charge inexpensive railroad safety promotional items during crossing safety and trespass prevention outreach activities, such as presentations to school children, workshops for State or local police or judges, or booths at county fairs. These tokens, though inexpensive, can help save lives and prevent injuries by reminding children and adults, pedestrians and motorists, of what they need to remember and do to protect themselves and others at railroad crossings and other points on railroad tracks and roadbed.

All HRGX&TP personnel who develop outreach material that has not been approved by FRA Headquarters or OLI must obtain prior approval to use said material. This will ensure that the material is consistent with the Administration's message and meets all guidelines of the Department.

Chapter 6 – Inspection and Investigation Procedures

Inventory of Inspection Territory (Regional Inspection Points)

Each Inspector will use the current Inventory records of highway-rail grade crossings located within his or her inspection area to assist in the planning of inspection activity. Inspectors must keep their Regional Inspection Points (RIP) inventory updated by using the RIP worksheet. The RIP worksheet should be updated when changes in the inventory occur, but not less than annually. When requested, the GXI will provide the Grade Crossing Specialist (GXS) with updated information to maintain a reliable inventory of highway-rail grade crossings (both active and passive), an inventory of quiet zones, and the number of highway-rail grade crossings within quiet zones contained in the GXI's territory. Current grade crossing Inventory records can be found by visiting FRA's safety data website at: https://safetydata.fra.dot.gov/OfficeofSafety/Default.aspx.

Inspection Priorities

The Regional Administrator, through the Regional Supervisory Specialist, will establish priorities appropriate to the urgency and seriousness of any alleged violation or other situation. If catastrophic and/or fatal accidents or complaints of a serious nature require the full use of existing resources, the Regional Supervisory Specialist must address those problems before releasing resources to resume regular inspection.

Unless otherwise instructed, a GXI must perform his or her duties in accordance with defined priorities. The priorities established are as follows:

Priority	Category
1	Accident Investigation
2	Complaint Investigation
3	BSAP/Waiver Application Investigation
4	Assessments/Special Inspection
5	Regular Inspection

Discipline Inspection Guidance

The following guidance was developed so that those working in the HRGX&TP discipline can best determine the areas on which to focus their limited resources. This guidance is intended to work in harmony with the allocation of resources identified in the National Inspection Plan (NIP) resource allocation model provided annually to each region, which the Regional Administrator may adjust as the need arises. This guidance may be revised as database programs or other applicable information or processes change.

Using Data Analysis to Determine Appropriate Focus

Purpose:

The purpose of using data analysis to determine appropriate areas of focus in ongoing HRGX&TP inspection/investigative efforts is to best determine how to apply FRA's limited resources toward areas of identified concern and, therefore, increase rail safety most effectively.

Inventory Inspections:

In general, Regions should use the following information to determine which Inventory records should be inspected each year:

- Part 225 audits that include an inspection of related Inventory records.

- Grade crossings where collisions with injuries or fatalities have occurred (these crossings should be inspected within six months after the collision).

- Crossing records that have not been updated by the railroad within the past 3 years. This list can be generated through the Grade Crossing Inventory System (GCIS). If the Regions need assistance, they can contact Headquarters (HQ) to help run the reports.

- Each year, each Region should select approximately 10 to 20 crossings identified as high-risk based on data (e.g., the Web-Based Accident Prediction System (WBAPS)) or local knowledge that should be inspected.

- Regions may inspect additional Inventory records based on their own knowledge of the railroads and States. For example, Regions may decide to verify Inventory records for public highway-rail grade crossings where construction improvements have recently upgraded the crossing warning devices or the roadway.

Use of Locomotive Train Horns at Highway-Rail Grade Crossings

Regions should use the following information to determine which quiet zones should be verified for compliance:

- New quiet zones: Newly established quiet zones should be inspected within 60 days of the date of quiet zone establishment.

- If the inspection is conducted before the date of quiet zone establishment, the inspection should be conducted after all Supplementary Safety Measures (SSMs) and Alternative Safety Measures (ASMs) have been installed, so that each SSM and ASM can be inspected to verify compliance with Appendices A and B to 49 CFR Part 222.

- Existing quiet zones: Existing quiet zones should be inspected every 3 years, at a minimum, to verify continued compliance with 49 CFR Part 222.

FRA inspectors should promptly bring non-compliant conditions to the attention of the public authority and advise the public authority that failure to address the non-compliant condition(s) may result in the resumption of routine locomotive horn sounding and/or the loss of quiet zone status. A follow-up inspection should also be conducted after the initial FRA inspection to confirm that action has been taken to address the non-compliant condition and/or mitigate the potential safety concerns posed by the non-compliant condition. If the non-compliant condition has not been resolved and sufficient action has not been taken to mitigate potential safety concerns posed by the non-compliant condition after a reasonable period of time, the FRA inspector should consult FRA HQ for guidance on additional enforcement action(s) that should be pursued.

With respect to any non-compliant highway-rail or pathway/pedestrian grade crossing warning systems that are identified, the inspection and enforcement of highway-rail and pathway/pedestrian grade crossing warning systems are Signal & Train Control (S&TC) functions to enforce. Therefore, if a concern is identified by the Grade Crossing Inspector (GXI) during an inspection, any follow up should be in conjunction with an S&TC Inspector.

State Action Plans

The FAST Act directs the Administrator to provide assistance to each State in developing and carrying out, as appropriate, the State Action Plan (SAP). In general, Regions should use the following information to assist States with the development of their SAPs:

- Work with the Regional Administrator (or designee) to determine who will serve as the Point of Contact (POC) for each State within the Region.

- Work with the SAP POC at HQ to determine who is the State's SAP representative. This information should have been provided by the State in the SAP.

- Contact the State's SAP coordinator to:

    - Identify yourself as the FRA's Regional SAP POC;

    - Offer assistance to him/her as a resource with the development and carrying out of its SAP, as appropriate (please provide your contact information, if necessary), and ask him/her to contact you if assistance is needed;

    - Inform the State SAP coordinator that the FRA SAP POCs (both in HQ and you) will be coordinating the review of the SAP once submitted;

    - Ask him/her to contact you about participating in any SAP meetings (as appropriate) or any matters related to highway-rail grade crossing safety; and

    - Inform the State SAP coordinator of the document entitled, *Highway-Rail Grade Crossing Action Plan and Project Prioritization Noteworthy Practices Guide*, which

is available for reference and can be found on the FRA webpage at: https://www.fra.dot.gov/modelsap.

Once the SAP is submitted:

- The Region POC will receive both notification of the submission from HQ and the document for review and comment. The HQ POC will coordinate this effort and will work with the Region POC.

- Per the FAST Act, FRA will have 60 days to review and either (1) notify the State that the SAP has been approved, or (2) return the SAP to the State and provide comments on incomplete or deficient portions.

- If FRA approves the SAP, the HQ and Region POCs will work with the FRA Webmaster to make the document available on the FRA website in a timely manner.

- If FRA determines that the SAP is incomplete or deficient, the State will have 60 days to resolve any comments and resubmit to FRA. The Region POC should provide assistance to the State SAP coordinator, upon request, to help the State address the deficiencies identified by FRA in the SAP.

The FAST Act does not require States to include FRA as a part of the process, but does require FRA to provide assistance to the States. However, every State should be encouraged to streamline its review process (and possibly resubmission process).

No later than three years after the Final Rule to update 49 CFR 234.11, FRA must submit a Report to Congress (RTC) on the SAP. Inspectors should anticipate:

- Occasional assistance with the development of the RTC. This assistance may consist of (but is not limited to): document review, development of language for the RTC, and reaching out to States to clarify SAP language for the RTC.

- Occasional team meetings to discuss ongoing efforts on the RTC.

Emergency Notification System Inspection:

The inspection considerations in this manual supersede all previous internal guidance on Emergency Notification System (ENS) compliance.

Section 1 – Frequency of Inspections

In general, Regions should use the following information to determine which crossings should be verified for ENS compliance:

- Inventory Audits where Part I, Box 33 of the Crossing Inventory Form (Emergency Notification Telephone No.) is inspected.

- Grade crossings where collisions occurred with a vehicle that was stuck on the tracks due to a traffic queue, humped crossing, or vehicle breakdown (these crossings should be inspected within six months after the collision).

- Grade crossings where a warning device malfunction occurred (these crossings should be inspected within six months after the malfunction).

Each year, each Region should select approximately 10 to 20 crossings where vehicles have the potential to become stuck on the crossing due to adjacent intersections or humped crossing conditions.

The Regions may inspect additional ENS records based on their own knowledge of the crossings. For instance, Regions may decide to verify ENS compliance at crossings they encounter as part of other duties while they are in the field. Regions may also decide to verify ENS compliance for railroads that have had a history of ENS non-compliance. However, the bulleted list above provides information sources that should be used by Regions to determine the minimum baseline for Inventory records to be inspected each year. Any additional inspections for compliance, if conducted, will be decided upon by the Region based on their local knowledge.

Section 2 – ENS Components

The ENS includes the following four components, all of which should be inspected for compliance:

(1) The signs, placed and maintained on each approach to highway-rail or pathway grade crossings that display the information necessary for the public to report an unsafe condition at the grade crossing to the dispatching railroad by telephone;

(2) The method that the railroad uses to receive and process a telephone call reporting the unsafe condition;

(3) The remedial actions that a railroad takes to address the report of the unsafe condition; and

(4) The recordkeeping conducted by a railroad in response to the report of the unsafe condition at the grade crossing.

Section 3 – Inspecting ENS Signs

The GXI should measure the sign to ensure it conforms to the minimum size requirement of 12” wide by 9” high. The sign may be larger than 12” x 9”.

The GXI should measure the text/character height to ensure it conforms to the minimum text/character height of 1 inch. The text may be larger than one inch.

The GXI should check to ensure that the text is legible. Some railroads hand-write or stamp the crossing number or other information on the sign, which can fade with time and weather conditions.

Even if the text is handwritten, it must be legible. Although handwriting the crossing number onto the sign is allowed, it is not recommended. Individual handwriting varies considerably and could likely be misread in an emergency situation.

The GXI should check to ensure that the sign has a blue background with white text and a white border. The crossing number itself may be black text on a white background. No other colors are allowed.

The GXI should check to ensure that the sign contains the required information. The sign should have:

- The toll-free telephone number (or non-toll-free telephone number as provided for in 49 CFR § 234.303(e)) established to receive reports pursuant to 49 CFR § 234.303(a). Only Class II and III railroads may use non-toll free numbers with a local area code so that a local caller will not incur long-distance charges.

- The purpose or explanation of the sign (e.g., "Report problem or emergency to _____"). As there is no defined language in the regulations, each railroad may use different text to explain the purpose of the sign.

- The U.S. DOT Crossing Inventory Number. The GXI should also verify the U.S. DOT Crossing Inventory Number listed on the sign is correct.

The railroad's name is not required on the sign, although it is allowed.

The GXI should verify the sign is retroreflective. The Federal Highway Administration (FHWA) Report Number: FHWA-HRT-08-029 provides specific details and requirements for retroreflectivity of blue signs. The report can be found at: https://www.fhwa.dot.gov/publications/research/safety/08029/. However, it would be unreasonable to have a GXI perform a time-consuming, expensive test of retroreflectivity of each sign. One method is to simply check a sign at night with a flashlight to determine if the sign is retroreflective or if the sign has a dull non-reflective coating. Retroreflectivity does degrade over time with weathering, so checking retroreflectivity is important.

The GXI should check to ensure that an ENS sign installed on its own post has a breakaway support. The 2004 American Association of State Highway and Transportation Officials (AASHTO) *Roadside Design Guide* (Chapter 4.1, Acceptance Criteria for Breakaway Supports) uses the term "breakaway" to describe all types of sign, luminaire, and traffic signal supports that are designed to yield when impacted by a vehicle. The *Roadside Design Guide* also indicates that the criteria used to determine if a support is considered breakaway can be found in the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*. The AASHTO specifications have been revised so that the breakaway

requirements are identical to the crashworthiness requirements in National Cooperative Highway Research Program (NCHRP) Report 350 found at: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_350-a.pdf. If the GXI is unsure if the sign post is a breakaway support, they may work with the Safety Engineer at the FHWA State Division Office.

The GXI should check to ensure that ENS signs are located on each approach to a crossing. For most crossings, there would be two signs, one for each direction. However, the regulations contain some exceptions:

- At a railroad yard, port, or dock area, the railroad must place one sign on each vehicular entrance to the facility instead of at each crossing within the facility.

- At a farm grade crossing, the railroad may place only one sign.

The GXI should ensure the sign meets the placement requirements under 49 CFR § 234.311(b)(1):

(i) Is conspicuous to users of the roadway or pathway by day and night;

(ii) Does not obstruct any other sign or traffic control device at the crossing;

(iii) Does not limit the view of a train approaching the highway-rail or pathway grade crossing; and

(iv) If mounted on a post, has supports that are crashworthy (i.e., breakaway or yielding).

The word "conspicuous" in the regulations is not more clearly defined, and the orientation of the sign parallel or perpendicular to the roadway is not a requirement. However, the GXI may make the following considerations:

- All letters and numerals of the sign should be visible and should not be hidden behind gate equipment, flashing lights, other signs, or any other obstructions.

- Although the height of the sign is not specified in the regulations, the sign should not be too high or too low. If the sign is too high, the text may be difficult to read. If the sign is too low near the ground, it may not be conspicuous at night, as headlights or flashlights may not illuminate it and take advantage of the retroreflectivity.

If the sign is found to be missing, damaged, or unusable, it must be repaired or replaced by the railroad within 30 calendar days from the time of the detection.

Section 4 – The Method that the Railroad Uses to Receive and Process a Telephone Call Reporting the Unsafe Condition

The Dispatching Railroad is responsible for receiving calls made through the ENS phone number. The GXI should ensure that the calls are being received by placing a phone call (and informing the person answering that they are an FRA inspector checking for ENS compliance).

The railroad must answer the call directly and promptly by a live person, except for certain situations in which an answering machine is allowed, as described below. However, the inspector should note that the railroad may have, at most, one prompt for the caller. For instance, a caller may be asked to press a number for English or another number for another language.

A railroad may use an answering machine to receive calls if:

- The trains are authorized to travel at speeds not greater than 20 miles per hour. If the railroad uses an answering machine for this purpose, it must check the messages prior to the beginning of operations each day. If the GXI reaches an answering machine when calling, the GXI should leave a message informing the railroad that this is an FRA inspection for ENS compliance and that a return call is needed to ensure the railroad is checking messages prior to the start of operations.

- The railroad operates on a seasonal or intermittent basis (such as a tourist railroad or one serving seasonal industries). If the railroad uses an answering machine for this purpose, it must check the message prior to the beginning of operations **and** each day. Same as above, if the GXI reaches an answering machine when calling, the GXI should leave a message informing the railroad that this is an FRA inspection for ENS compliance and that a return call is needed to ensure the railroad is checking messages as required.

Section 5 – The Remedial Actions that a Railroad Takes to Address the Report of the Unsafe Condition and Recordkeeping

The railroad must keep records of all calls and remedial actions for at least one year and must make the records available to FRA upon request. The GXI should ask for the previous 12 months' worth of records and ensure they contain the following required information, as specified in the regulations for each report received through the ENS:

(1) The nature of the reported unsafe condition;

(2) The location of the highway-rail or pathway grade crossing, by highway name, if applicable, and the U.S. DOT National Crossing Inventory number;

(3) The time and date of receipt of the report by the railroad;

(4) If applicable, whether the person who provided the report was a railroad employee, law enforcement officer, highway traffic official, or other employee of a public agency acting in an official capacity;

(5) Actions taken by the railroad prior to resolving the reported unsafe condition at the grade crossing (e.g., warning train crews, notifying the maintaining railroad, or contacting law enforcement or other public authorities);

(6) If the reported unsafe condition is substantiated, actions taken by the railroad to remedy the reported unsafe condition, if lawful and feasible;

(7) The time and date when the reported unsafe condition was remedied;

(8) If no remedial action was taken, the reason why; and

(9) If a dispatching railroad, in accordance with 49 CFR § 234.305, is required to contact a maintaining railroad, the time and date when it contacted the maintaining railroad.

In addition, if there is more than one Dispatching Railroad, the railroads must appoint one to be the Primary Dispatching Railroad. (The Primary Dispatching Railroad may differ from the Primary Operating Railroad required for Crossing Inventory submissions and updates.) The appointment of the Primary Dispatching Railroad must be made in writing as required under 49 CFR § 234.313(c). The term "in-writing" includes a hard copy letter, email, or any source written on paper or electronically shared between the railroads such that it can be reproduced for FRA upon request.

Similarly, if there is more than one Maintaining Railroad, the railroads must appoint one to be the Primary Maintaining Railroad. (The Primary Maintaining Railroad may differ from the Primary Operating Railroad required for Crossing Inventory submissions and updates.) The appointment of the Primary Maintaining Railroad must be made in writing as required under 49 CFR §234.313(c). The term "in-writing" includes a hard copy letter, email, or any source written on paper or electronically shared between the railroads such that it can be reproduced for FRA upon request.

Notice and Time of Inspections and Investigations

A records inspection may require advance planning by the FRA or State inspector and by the railroad officers and/or other employees who will provide the records requested. Railroad officers may need to arrange for employees to assist in the production of requested records.

Time of Inspections and Investigations

Normally, inspection activity will be conducted during the hours of a railroad employee's regular working day. It is not FRA policy to require a railroad employee to work overtime making routine or regular inspections. If a railroad employee accompanies a GXI, the regular inspection

day will commence at the railroad employee's regular starting time and will include a lunch period consistent with that of the employee.

At times during accident investigations, assessments, and special investigations, inspection activities may be conducted outside of the hours of the regular duty day. When such activities are performed outside of regular hours, the GXI will make appropriate arrangements with the railroad to provide employees who can assist in the inspections.

Refusal to Permit an Inspection or Investigation

When trying to gain access to railroad property, GXIs may answer reasonable questions regarding the scope and purpose of the investigation. However, if access is denied, GXIs should ask the reason, leave the premises, and report the matter to their regional supervisors. The regional supervisors will then contact FRA HQ management and the Office of Chief Counsel for further instructions. **Under no circumstances should GXIs engage in disputes with any railroad or shipper representative who refuses to permit an inspection.**

Note: Reference the FRA General Manual for further guidance regarding interference with inspection or investigation activities, handling strikes or labor disputes, forcible resistance to inspections, use of credentials, etc.

Waiver of Responsibility

While on official business, the GXI **shall not sign any form of release or agree to any form of waiver releasing the carrier, facility, or other persons involved from responsibility for injury or loss or damage to personal or government property.** If a railroad insists that a GXI sign some sort of release before entering upon the railroad's property, the GXI shall suspend the inspection or investigation and promptly report the circumstances to his or her regional supervisory specialist.

The GXI may sign a visitor's register, property pass, or any form or book that the railroad uses to control and log entry and movement of persons on its property, so long as such signature does not constitute any form of waiver or release of prosecution or liability.

Unusual Problems or Incidents

Should the inspector encounter an unusual condition or questionable situation that is not covered by FRA regulations or guidance, the GXI should carefully weigh any action he or she takes.

If the condition or situation clearly represents a danger to the public, railroad employees, or to the operation of trains, the GXI is expected to take remedial action to help ensure the safety of the individuals and operations involved. If you are a GXI, appropriate action you may take includes:

- Communicating directly with the employees involved and advising them of your concerns;

- Advising a railroad manager of your findings as soon as possible. If the act violates company rules, you are obliged to report the circumstances to a company official and on your inspection report; and

- If the act violates FRA regulations, advising them you are taking official exception to the noncompliance. Under these circumstances, you are obliged to list the name(s) and occupation(s) of the employee(s) on your inspection report.

The GXI should notify his or her Regional Supervisory Specialist and give full details of the situation as soon as possible.

If the condition or situation does not represent an imminent danger to the railroad, its employees, or the general public, the GXI should contact his or her Regional Supervisory Specialist and obtain advice and further guidance.

Cooperation of Personnel with Industry and other Governmental Agencies

The GXI should maintain a cordial relationship with the railroads, private crossing owners, and other governmental agencies. However, a GXI should not offer help or cooperation on any project or investigation without specific authorization of the Regional Administrator, Deputy Regional Administrator, or Regional Supervisory Specialist. The Regional Supervisory Specialist shall not authorize any such cooperation without specific authority from the Regional Administrator's office.

Chapter 7 – Gaining Compliance

Purpose

The purpose of this chapter is to provide guidance to Federal and State personnel for planning and conducting inspections and other related activities for determining appropriate levels of compliance with the Federal regulations.

Regular Inspections

Each GXI will sufficiently cover his or her inspection territory to assure that each railroad and/or system is inspected on a regular basis. However, the GXI shall direct his or her efforts to the railroads or areas that are most in need of improvement as indicated by previous inspection defect ratios, accident, railroad trespassing, and other FRA data.

Each GXI has been furnished with appropriate compliance manuals. The technical manual provides detailed technical guidance covering the proper application of the HRGX&TP regulations.

In line with the guidance provided by the technical manual and general compliance policy, and because it is necessary to direct resources toward areas that are most in need of a GXI's attention, the inspection program will emphasize re-inspection within 60 days of those systems where high-defect ratios are noted.

The defect average is determined by dividing the number of defective conditions cited by the number of units inspected.

Each GXI should strive to average at least one inspection per workday, except when on leave, performing a particular investigation or special assignment or completing the associated reports, or in training.

Conference During and After an Inspection or Investigation

After the day's inspection activity on a railroad is finished, the GXI will make out his or her inspection reports, listing each defective condition he or she noted during the day's work. For inspections other than quiet zone inspections, the GXI will then go over each item listed on the inspection reports with the railroad representative to make sure that the representative understands each item listed on the report(s) as defective, the location of each such condition, and what sort of corrective action is indicated. A copy of each inspection report will be given to the railroad's representative before the GXI departs from the railroad's property or when reasonably appropriate.

For quiet zone inspections, the GXI will make out his or her inspection reports, listing each defective condition he or she noted during the day's work. For quiet zone inspections, the GXI will go over each item listed on the inspection report with the public authority's designated point of contact for the quiet zone to make sure that the point of contact understands each item listed on the report(s) as non-compliant, the location of each such condition, and what sort of corrective action is indicated. A copy of each inspection report will be given to the public authority's designated point of contact for the quiet zone before the GXI departs from the location or when reasonably appropriate.

Special Inspections and/or Assessments

Special inspections, team inspections, and/or assessments are special inspections conducted to develop sufficient information to prepare a detailed evaluation of all or a major portion of a railroad system. All special inspection activities will be governed by the current instructions issued by FRA Headquarters (HQ) for the administration of such projects.

Before starting to make inspections in connection with an assessment, the GXI should review all of the requirements of this chapter and be prepared to obtain sufficient information to complete his or her narrative report.

Assessments will normally be assigned by the Associate Administrator for Railroad Safety/Chief Railroad Safety Officer, and in most cases, will involve more than one region. However, this does not prohibit the Regional Administrator from assigning an assessment on a railroad on a regional basis.

Inspection reports must be submitted for all inspections using the appropriate predetermined source code. All conditions that are not in accordance with the requirements of the regulations must be duly reported on an Inspection Report Form F 6180.96. During assessments or special inspection activities, violation reports will be filed in accordance with the instructions governing the administration of such projects.

An assessment narrative report must be prepared by the inspector and must contain sufficient information to support the conclusions of the inspector as to the degree of compliance with FRA's HRGX&TP regulations.

The narrative report should be broken up into sections, each covering a defined line segment. In most cases, each line segment can be defined by the limits of a subdivision or district. When describing the line segment in the report, it should be identified by division, subdivision or district, milepost limits, and major cities.

Accident Investigation

Accident investigations will normally be assigned by the Associate Administrator for Railroad Safety/Chief Safety Officer. This practice does not prohibit the Regional Administrator from assigning accident investigations on a regional basis. Technical bulletins have been issued that define the types of accidents to be investigated and the procedures to be followed when making

such investigations. GXIs should also refer to the latest guidance found in FRA's General Manual, Chapter 4.

If an HRGX&TP inspection is made during the investigation of an accident, the GXI must complete an Inspection Report Form F 6180.96. The appropriate source code on the inspection report must be shown. If the accident that is under investigation has been assigned an accident investigation number by HQ or by the region, the number must be entered in the space titled "File Number." Refer to the Railroad Inspection System for Personal Computers (RISPC) program for specific instructions concerning Form F 6180.96.

Complaint Investigation

Complaints must be acted upon as soon as possible in keeping with the priorities and procedures contained in this manual and FRA's General Manual.

The regional supervisory specialist will establish priorities regarding the action to be taken on individual complaints. Complaints alleging the existence of imminent danger must be accorded the highest priority. High priority must also be given to complaints alleging conditions which appear to be serious safety concerns.

If an oral complaint is made to an inspector during the course of an inspection, he or she should act on it to the extent possible as part of that inspection. If additional days will be involved in investigation of the complaint, the GXI must contact the regional specialist for guidance on any further handling of the complaint.

When acting on a complaint, the GXI should fully investigate the facility or systems involved in the alleged unsafe condition and/or noncompliance with FRA regulations. However, inspection of highway-rail grade crossing warning systems is a Signal & Train Control (S&TC) function to enforce. Therefore, if a concern with the proper operation of the highway-rail or pathway grade crossing warning system is identified by the GXI during an inspection, any follow up should be made in conjunction with an S&TC Inspector.

The procedures for handling complaints are:

- Upon receipt of a written complaint, the Regional Administrator, or a member of his or her staff, will obtain a control number (complaint file number from iCMS) to be used on all correspondence concerning the complaint, as well as the report of the investigation of the complaint.

- Complaints that are received at FRA HQ will be assigned a control number before being sent to the applicable regional office for investigation.

- The Regional Supervisory Specialist will assign and schedule the investigation. For complaints directly received by the Region, when the investigation is completed, the Regional Supervisory Specialist will review the GXI's report and prepare a closeout letter for the Regional Administrator's signature. It is helpful if a copy of the completed

closeout letter and the GXI's report is forwarded to the HRGX&TP staff for their information and for the purpose of recognizing possible trends or systemic issues. For complaints received by headquarters, HQ staff will prepare an interim response to be provided to the complainant, and the complaint will be assigned to the applicable region for investigation. When the investigation is complete, the Regional Supervisory Specialist will review the inspector's report and forward the report with applicable attachments to the HRGX&TP staff for preparation of a closeout letter. A copy of the subsequent closeout letter must be provided to the region for their information and files.

- The complaint should be evaluated to determine if the alleged violation or danger exists. The GXI should call or contact the complainant and obtain details of the alleged violation or danger. It may be desirable to meet with the complainant in person if possible.

- When a regional or State office receives an oral complaint, in person or by telephone, action must be taken. This action can take the form of a formal investigation or be handled very much like a regular inspection.

- If it is determined that a violation of FRA regulations or danger might exist, an investigation must be scheduled as soon as practicable. If there appears to be an imminent danger to the operation of trains, to railroad employees, or to the general public, immediate action must be taken to mitigate such danger.

The investigation must be conducted in accordance with the instructions in this manual.

- After a field investigation of all of the allegations has been completed, the GXI will prepare a written narrative report describing the facility, location, or system that was inspected, the conditions found, what corrective action was taken by the railroad, and what action was taken by the inspector. An inspection report, Form F 6180.96, must be submitted to cover each such inspection using the appropriate source code and the complaint file number must be shown in the space titled, "File Number." If allegations of a violation of FRA's HRGX regulations are found to be valid, a violation report should be submitted in most instances. The GXI will forward the original report with all documents and backup materials to the regional office for review and handling as described above.

Conducting Interviews

GXIs will, from time to time, need to conduct an interview of a railroad employee or other person in connection with an investigation of an accident, complaint, application, false proceed signal or activation failure, assessment, etc. Such interviews must be conducted within the guidelines set forth in the General Manual.

The interview must be conducted in a businesslike manner, with no frivolity. The person interviewed will be treated courteously and with respect. The questions should be pertinent to the investigation and not be made in a leading manner. The idea of the interview is to get that person's viewpoint about the subject or what happened. The interview should be

audio-recorded, if at all possible. Good notes should be kept of the interview so that an accurate report of the interview can be prepared.

The GXI will give full credence and consideration to the comments and statements of the person being interviewed. The GXI will weigh those comments and statements in concert with established facts and the comments and statements of other persons.

Determining When and What Enforcement Action is Necessary

FRA does not have to take a formal enforcement action every time it discovers or learns of a condition of noncompliance with Federal railroad safety laws and regulations. FRA has enforcement discretion, and it can choose which cases to pursue for civil penalty or other form of enforcement based on available resources, and on what it believes to be the best method for promoting compliance. Moreover, when FRA decides that enforcement action is warranted, it has a range of enforcement tools (discussed below) and has the authority to choose those best suited to the circumstances. One of these tools—the emergency order—can be used to address an immediate hazard, even if no existing Federal regulation or law has been specifically violated.

The existence of this wide enforcement discretion—concerning when and what enforcement action is necessary—calls for general guidelines to ensure effectiveness, fairness, and an acceptable level of consistency in the exercise of that discretion. The purpose of these guidelines is not to dictate absolute identical treatment of like situations; that would be unrealistic and would require a false assumption that each of the many variables going into an enforcement decision could be quantified objectively and accurately. Instead, the purpose of these guidelines is to control the subjective elements of this process, as much as is feasible, by requiring that those making enforcement decisions weigh the same factors and make full, uniform use of the information available to them. In this way, the appropriate enforcement tool is most likely to be applied, responsible discretionary judgments are made, and an acceptable level of consistency is achieved. Application of these factors should preclude abuses of discretion such as basing an enforcement decision on personal bias, or failure to enforce the law because of a personal aversion to action and/or the "extra work."

FRA's Statement of Agency Policy Concerning Enforcement of the Federal Railroad Safety Laws (49 Code of Federal Regulations (CFR) Part 209, Appendix A) stresses that discretion is exercised at the field and regional levels. Although GXIs make initial determinations on the need for enforcement action, regional personnel play an active role in reviewing those determinations with an eye toward effectiveness and consistency. Moreover, regional supervisory specialists play a primary role in ensuring that field inspectors have the data necessary to make effective and appropriate enforcement decisions. The Regional Supervisory Specialist, for example, periodically analyzes the relevant data on accidents, incidents, and inspections to detect patterns or problem areas at the regional, railroad, or office level. This information should be used not only in deciding where to inspect but also, as discussed below, in deciding when and what enforcement action is necessary. Office of Railroad Safety headquarters personnel are, of course, responsible for spotting national trends in the data that warrant particular levels of enforcement action and for providing guidance to the regional and field staff on difficult enforcement policy issues.

FRA's policy statement sets forth key factors to be considered in making enforcement decisions. The following information in this chapter should be considered when weighing factors regarding any HRGT&TP enforcement decisions:

(1) The inherent seriousness of the condition or action.

(2) The kind and degree of potential safety hazard the condition or action poses in light of the immediate factual situation.

(3) Any actual harm to persons or property already caused by the condition or action.

(4) The offending person's (i.e., railroad's or individual's) general level of current compliance as revealed by the inspection as a whole.

(5) The person's recent history of compliance with the relevant set of regulations, especially at the specific location or division of the railroad involved.

(6) Whether a remedy other than a civil penalty (ranging from an individual warning up to an emergency order) is more appropriate under all of the facts.

(7) Such other factors as the immediate circumstances make relevant.

The exercise of this discretion at the field and regional levels is a vital part of the enforcement process, ensuring that the exacting and time-consuming civil penalty process is used to address those situations most in need of the deterrent effect of available penalties.

49 CFR Part 222 contains the minimum standards for the establishment of quiet zones. While States may not prohibit the establishment of quiet zones, States may adopt and enforce additional requirements regarding the modification or installation of grade crossing warning systems.

The GXI should take exception to any condition that does not meet FRA requirements in 49 CFR Part 222. However, GXI cannot take exception to a condition just because it does not comply with State requirements for the grade crossing. If the GXI discovers non-compliance with State requirements for a grade crossing, the GXI should notify the relevant State agency, as well as his or her GXS. The GXI's authority extends only to the enforcement of FRA regulations.

If the GXI discovers non-compliance with guidance and/or standards contained in the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD), the GXI should notify his or her GXS and seek guidance from FRA HQ staff. If 49 CFR Part 222 specifically states that a sign or grade crossing warning device must conform to the standards contained in the MUTCD, it may be appropriate to write a violation based on noncompliance with an MUTCD standard. However, some States have not fully adopted the MUTCD. Also, the GXI should ensure that he or she has identified non-compliance with an MUTCD standard, as opposed to MUTCD guidance. (It would not be appropriate for the GXI to write a violation based on non-compliance with MUTCD guidance.) Therefore, the GXI should seek guidance

from FRA HQ staff before writing any Part 222 violations based on non-compliance with a standard in the MUTCD.

All defective conditions noted by the inspector must be reported on the FRA inspection report, using the defect codes contained within the RISPC program and as listed in the applicable Technical Manual section. Only these defect codes may be used. The GXI is encouraged to add clarifying information about specific deficiencies, especially when he/she recommends that FRA violations should be issued in response. However, GXIs are not permitted to make up their own defect codes.

Defective Conditions Not Cited as a Violation

When, in the judgment of the GXI, the defective conditions found:

- Do not represent an imminent hazard to the operation of trains;
- Do not present a danger to the railroad's employees or the general public;
- Do not appear to be a trend or pattern of defective conditions; and
- Are not associated with a specific condition previously cited for correction which has not been performed,

The GXI should cite the defects on an inspection report while not recommending a violation. Subsequently, the GXI should take such action as necessary to make sure the railroad corrects the defective conditions and brings its systems into compliance with the applicable regulations.

Defective Conditions Cited as a Violation

Noncompliance with the requirements in any section of 49 CFR Part 234, Subparts E and F, can be cited as a violation. The following are examples of situations when—depending on conditions found, circumstances involved, or compliance history—violations are nearly always warranted:

- A GXI finds conditions that are not in compliance with the regulations, and in the judgment of the GXI, the conditions present an imminent hazard to movement of trains or the general public.
- A condition is found during a re-inspection that was cited on a previous inspection report and can be clearly identified as having remained uncorrected since that previous inspection.

In order to increase and maintain appropriate and uniform enforcement of the regulations across the discipline, the following rule sections and associated deficiencies are provided as examples of non-compliance that in most instances warrant citing violations:

- 49 CFR § 234.303—Dispatching railroad fails to establish and maintain a toll-free telephone service by which the railroad can directly and promptly receive telephone calls from the public of reports of unsafe conditions at crossings

- 49 CFR § 234.311—Responsible railroad fails to place and maintain required number of ENS sign(s) at a public highway-rail grade crossing

- 49 CFR § 234.407—Primary operating railroad fails to timely submit an accurate Inventory Form (or electronic equivalent) to the Crossing Inventory for new crossing

- 49 CFR § 234.409—Primary operating railroad fails to timely submit up-to-date and accurate crossing data (periodic update) to the Crossing Inventory for highway-rail or pathway crossing

Railroad Action to Correct Defective Conditions

Some railroad personnel have the mistaken idea that when a noncompliant or defective condition is cited on an inspection report, the railroad has 30 days to correct that condition. It should be pointed out to the railroad that defects must be corrected immediately (i.e., as soon as possible given the particular circumstances of the condition). If the condition can be corrected by making adjustments or repairs during the inspection, the railroad is expected to make such adjustments or repairs. If the condition cannot be corrected during the inspection, the railroad is obligated to initiate and complete the corrective action as soon as possible after the inspection.
The GXI should use good judgment about the railroad's obligation and ability to promptly correct the defective conditions cited on an inspection report. The GXI must recognize that some defective conditions, such as out-of-date or missing Crossing Inventory records, may take some time and/or collection of material to correct. While such conditions are not likely to be corrected immediately, they should still be given high priority by the railroad.

On the other hand, the GXI should not condone the actions of a carrier that fails to promptly start work to correct conditions that may be accomplished immediately.

Written Reporting of Remedial Actions Taken

When a violation is indicated as being recommended on an inspection report, the inspector must select whether the railroad is required to report the remedial action, in writing, within 30 days following the end of the calendar month of the citation. The GXI should determine whether a remedial action is applicable, and if so, select the box indicating that a written report of remedial action is required. When this is the case, the GXI must follow up to assure the remedial action is indeed reported, or a separate citation for the railroad's failure to do so may be warranted (*see* 49 CFR Part 209, Subpart E, specifically § 209.405). When the GXI receives the railroad's written notification of remedial action, he or she must upload the necessary information into the RISPC program.

Chapter 8 – Field Reports, Procedures, and Forms

General Requirements

An Inspection Report Form F 6180.96 shall be completed and submitted any time a Grade Crossing Inspector (GXI) engages in inspection activity or trespassing site visit. This requirement applies to all field inspections, regardless of whether they are performed in connection with regular inspection activity or some special activity, such as conducting a trespassing site assessment. All pertinent information shall be provided on the form.

Completion of Inspection Report Form, FRA F 6180.96

This section describes the methods to be used in preparing the FRA Form F 6180.96 (Inspection Report Form) and the information that is required to be recorded on the form.

The Form F 6180.96 is contained in the Railroad Inspection System for PC (RISPC) program and is designed to be used with a computer. It is designed so that data from the completed inspection report forms can be used for computer-aided storage, retrieval, sorting, and generation of reports of inspection data.

Each GXI or GXS who performs a Crossing Inventory or ENS inspection shall complete and submit an FRA inspection report to the railroad when the inspection is completed. When a Form FRA F 6180.96 is submitted that indicates a violation has been recommended, the GXI or GXS is required to complete and submit a subsequent violation report.

Note: The Inspection Report Form is designed such that each line item indicates whether a violation is being recommended. Therefore, it is generally inappropriate to use more than one inspection report form per day to indicate a combination of deficiencies and violations, or that two or more violations are being recommended, even in the event that different CFR parts and/or rule sections within a CFR part are being cited, unless it is necessary due to other information on the form (i.e., different railroad, State, division or subdivision, etc.).

Note: Each GXI or GXS who performs a Quiet Zone inspection shall complete and submit an FRA inspection report when the inspection is complete to the designated quiet zone point of contact at the public authority. If the GXI or GXS discovers that SSMs or ASMs listed in the Notice of Quiet Zone Establishment are missing or fail to comply with the SSM requirements in appendix A to 49 CFR Part 222 (or the conditions of the quiet zone application approval letter), the GXI or GXS may include a recommendation to initiate a quiet zone review under 49 CFR § 222.51(c) on the Inspection Report Form.

The HRGX&TP Inspection Report shall be complete and understandable and shall be presented to the railroad representative or designated quiet zone point of contact at the end of the day's inspection activities or within a reasonable amount of time. If two or more inspectors are working together, only one FRA Inspection Report Form should normally be filed and the accompanying inspector(s) identified in the appropriate location on the report. When the

inspection activity involves an area regularly inspected by one of the inspectors engaged in the activity, the report should be filed by the GXI who normally covers that area.

The Inspection Report Form shall be completed in accordance with the instructions found within the RISPC program (*see* "Help" file). *(See Technical Bulletin G-07-03, which presents the revised source codes for use on the inspection report form and Appendix A for the current HRGX&TP activity codes.)*

Note: The description block on the inspection report form is where the GXI should describe the defective condition being cited. Often, inserting the defect code itself will adequately provide that description. However, in many other instances, especially those in which a violation is recommended, it is highly desirable to add explanatory language about the details of the defective condition. When clarification is necessary, the GXI should add a concise description of the defective condition. For example, if recommending a violation for noncompliance with 49 CFR § 234.311, insert the defect code and add a minimal explanation of the conditions observed during the inspection.

Distribution of Inspection Reports

With the exception of quiet zone inspections, the railroad copy of the inspection report should be provided to the appropriate railroad representative upon the completion of each day of inspection to the extent possible. The inspector should at a minimum inform the railroad representative of any exceptions taken, particularly those in which a violation will be issued. The GXI should obtain the railroad representative's signature on each inspection report provided to the railroad—especially any report recommending a violation—or a receipt of acknowledgment for any inspection report emailed to the railroad.

For quiet zone inspections, the "railroad" copy of the inspection report should be provided to the designated quiet zone point of contact for the public authority upon the completion of each day of inspection to the extent possible. The inspector should at a minimum inform the quiet zone point of contact of any non-compliant conditions observed. The GXI should obtain the signature of the designated quiet zone point of contact on each inspection report provided to the public authority – or a receipt of acknowledgement for any inspection report emailed to the designated quiet zone point of contact.

The report shall be uploaded to the data processing contractor according to current instructions. State inspectors shall be governed by guidance from their immediate supervisors regarding the handling of inspection reports.

GXS Review of Inspection Reports

The GXS shall periodically review inspection reports of each of their assigned inspectors for errors and/or omissions, as well as technical appropriateness and correctness. Each reviewed report shall be examined to see that all data fields contain the mandatory information.

The GXS shall ascertain that the rules used to cite defective conditions are correctly applied and that they are applicable to the area inspected. The GXS shall also confirm that the GXI has appropriately labeled each citation as a defect or violation. In addition, the GXS shall confirm that any recommendation by the GXI to initiate a quiet zone review is based on demonstrated non-compliance with the SSM requirements in appendix A to 49 CFR Part 222 and/or the conditions contained in FRA's quiet zone application approval letter. Any question in either case should be discussed and resolved with the applicable inspector and/or RRS HQ.

Should the GXS find errors, omissions, or technical issues, he or she should immediately take steps to send a corrected copy to the data entry contractor so that the inspection data can be successfully entered into the database. The GXS should advise the GXI of the errors, omissions, or technical issues so that similar ones will not be made on future reports.

The GXS shall also ensure that when an GXI prepares an inspection report recommending a violation, the GXI provides a sufficient explanation of the condition and promptly submits the subsequent violation report.

Completion of Violation Report Form

GXIs should adhere to the following instructions when writing the narrative section of the F 6180.112, HRGX&TP violation report, for ENS and Crossing Inventory violations associated with subparts E and F of 49 CFR Part 234, unless otherwise instructed by their immediate supervisor or by staff at FRA Headquarters (HQ).

Box 15 Synopsis of Violation: State that on [INSERT DATE], [CARRIER (use the full corporate name)] was in violation of Title 49 Code of Federal Regulations (CFR) Section [SECTION NUMBER] [TITLE OF SECTION]. Do not use abbreviations such as RS&I, HGC, etc. The violation report is an official document that may be used in a court of law and, therefore, should be as precise as possible.

Box 16 Rule Violation: Cite the entire rule of which the carrier is in violation, or if it is a very long rule, cite the appropriate portion of the rule. Include the section number and title as a heading for the rule, and ensure that the rule is quoted correctly down to every comma and hyphen. When only a portion of a rule is quoted, insert a row of three dots one space apart, in front of the quoted text and/or behind, to denote that a portion of the rule is intentionally not quoted.

Box 17 Date/Location of Inspection, Speed/Class of Track, System Inspected and Accompanying Personnel: State the date and time of the inspection, the street/road name, city and state, milepost, and, if applicable, U.S. DOT Crossing Inventory number, the name of the railroad representative who was accompanying the inspector (along with his or her title), any accompanying FRA Inspector, and the type of grade crossing inspected.

Box 18 Description of Defective Condition: List the specific appliance or location within the system where the defective condition was found, a full description of the condition that prompted the violation, and a full description of the condition that prompted the violation.

Box 19 Seriousness/Reason for Violation: State that the condition is dangerous and explain why; in the case of a re-inspection, justify the violation by referring to the applicable previous inspection report. List the date and report number of the previous inspection report, indicate that the carrier failed to perform the required remedial action, and state if the railroad is showing a pattern of non-compliance.

Box 20 Corrective Action: State, when applicable, what action the carrier took to correct the defective condition and when such action was taken.

Box 21 Inspector Recommendation: The GXI should make a recommendation for violation counts and the number of days for each count.

Note: There will be occasions when an GXI files a violation report based on non-compliance with other parts of the CFR. Such violation reports may be revised to conform to the circumstances of the violation. The appropriate violation report form shall be used. The proper Violation Report Form will be generated by the RISPC system. When the violation report and all supportive documentation is complete, the GXI will forward the entire violation package to his or her GXS. State inspectors will be governed by the instructions from their respective States as to handling of the violation reports when ready for transmittal.

Distribution of Violation Reports

Where the GXI is recommending issuance of a violation, the completed report, along with the supporting documentation, shall be submitted to the Regional Administrator's office within 30 days, where it will be reviewed and forwarded to the Office of Chief Counsel's Safety Law Division.

When the violation report is complete and ready for transmittal, an electronic Transmittal From Region (TFR) form shall be generated using the FRA Violation Generation and Tracking System (VGTS) web page on the secure site, and a copy shall be attached to the violation report packet. The original and one copy of the violation report shall then be submitted to Office of Chief Counsel. One copy should also be filed at regional headquarters.

State inspectors will be governed by the instructions from their respective States as to handling the violation reports when ready for transmittal.

GXS Review of Violation Reports

The GXS shall review each violation report for errors and/or omissions, correct technical terms and technical application of the regulation cited, and correct format, grammar, and spelling. The GXS will also ensure that the information contained in the violation report provides sufficient support for the violation recommendation and that it corresponds with the information in the inspection report upon which the violation is based.

After the GXS has reviewed the violation report and ascertained that it is well-written and contains the necessary information, he or she will generate the electronic TFR form using the

FRA VGTS web page on the secure site and attach a copy to the violation report packet. The GXS shall then submit the original and one copy of the violation report to the Office of Chief Counsel. One copy should be filed at the regional headquarters.

The GXS shall return to the GXI any violation report that is improper in regulatory application, deficient in content, improper in format, or incorrect in grammar or spelling. He or she shall also return to the GXI any violation report in which the information does not support the violation recommendation or does not correspond with the inspection report that contains the violation recommendation.

If the GXS does not agree with the seriousness of the condition and does not support the violation, he or she should discuss the issue with the GXI involved. If the GXI insists on recommending a violation, the GXS should prepare a memorandum to the Regional Administrator citing his or her position and the basis upon which his or her position is supported. The Regional Administrator will attempt to resolve the matter and, in doing so, determine whether to forward the violation package to the Office of Chief Counsel.

The Quiet Zone Checklist

The Quiet Zone Inspection Checklist is intended to provide guidance for Grade Crossing Inspectors, Grade Crossing Specialists, and Grade Crossing Managers on the nature and frequency of Train Horn/Quiet Zone inspections.

Part I: QUIET ZONE INFORMATION

I. QUIET ZONE INFORMATION	
QZ ID:	
No. of Crossings in the QZ:	
Type of QZ:	☐ Pre-Rule ☐ Pre-Rule Partial ☐ New Quiet Zone ☐ New Partial Quiet Zone
QZ Date of Establishment:	
QZ Point of Contact:	
Railroad(s):	Primary: _____ Other: _____

The information provided in Section I (Quiet Zone Information) should remain the same for each crossing located within the quiet zone. Use a separate inspection form for each crossing.

Quiet Zone ID:

- Enter the **Case Train Horn Rule (THR) Request number** as indicated in the iCMS database.

Number of Crossings in the Quiet Zone:

- Enter the number of physical highway-rail and pathway/pedestrian crossings in the quiet zone as indicated on the **Crossing List** in the iCMS database.

Type of Quiet Zone: New Quiet Zone, New Partial Quiet Zone, Pre-Rule, Pre-Rule Partial

- Enter the **Quiet Zone Type** as indicated in the iCMS database.

Quiet Zone Date of Establishment:

- Enter the date the quiet zone was established, as indicated in the **Start Date** field in the iCMS database.

Quiet Zone Point of Contact:

- Enter the name, title, and telephone number of the person responsible for monitoring the quiet zone. For re-inspections, please contact the public authority to verify the Point of Contact's information. If the Point of Contact has changed, notify the headquarters specialist responsible for updating quiet zone data and have the municipality update the FRA in writing.

Railroad(s):

- Enter the name of the primary operating railroad and any other railroad that operates over the grade crossing, as indicated in the iCMS database.

Part II: LOCATIONS

II. LOCATIONS	
Crossing Type:	☐ Public Highway-Rail ☐ Private Highway-Rail ☐ Pedestrian
DOT Crossing Inventory No.:	
Street/Road Name:	
City/State:	
Railroad Milepost:	

Crossing Type: Public Highway-Rail, Private Highway-Rail, Pedestrian—Refer to the Crossing Inventory.

- ✓ Check the "Public Highway-Rail" box if:

  - The crossing is located where a public highway, road, or street crosses one or more railroad tracks either at grade or grade-separated.

- ✓ Check the "Private Highway-Rail" box if:

    - The crossing is a location where a private roadway crosses one or more railroad tracks either at grade or grade-separated.

- ✓ Check the "Pedestrian" box if:

    - The crossing is a separate designed sidewalk or pathway where pedestrians, but not vehicles, cross both public and private railroad tracks. Note: Sidewalk crossings contiguous with, or separate but adjacent to, public highway-rail grade crossings are presumed to be part of the public highway-rail grade crossing and are not considered pedestrian grade crossings.

DOT Crossing Inventory No.:

- ➢ Enter the valid U.S. DOT National Highway-Rail Crossing Inventory Number (6 digits followed by an alpha character).

Street/Road Name:

- ➢ Enter the street or road name. If the roadway is private and it has a name, enter the name of the road. If such information is unknown, enter "private."

City/State:

- ➢ Enter the City or County where the crossing is located.

- ➢ Enter the two-character U.S. Postal Service abbreviation for the State where the crossing is located.

    - If parts of the crossing lie in two or more cities, towns, or villages, identify the city or municipality listed in the Crossing Inventory.

Railroad Milepost:

- ➢ Enter the railroad milepost number as shown in the Crossing Inventory. If the railroad milepost number as indicated in the Inventory is inaccurate, contact the HQ specialist responsible for Inventory updates.

Part III: SAFETY IMPROVEMENTS

III. SAFETY IMPROVEMENTS	
SSM:	☐ None ☐ Four-Quadrant Gate System ☐ Gates with Medians or Channelization ☐ One Way Street with Gates ☐ Permanent Closure ☐ Temporary Closure
ASM:	☐ None ☐ Engineering ASMs _____ ☐ Modified SSMs _____ ☐ Non-Engineering ASMs _____
Power-out Indicator	☐ Yes ☐ No
Wayside Horn Installed:	☐ Yes ☐ No

Supplementary Safety Measure (SSM)

✓ If the crossing has a Supplementary Safety Measure (SSM), check the appropriate type. If the crossing is not equipped with a SSM, check "None."

Four-Quadrant Gate System

- Installed gates at a crossing sufficient to fully block highway traffic from entering the crossing when the gates are lowered, including at least one gate for each direction of traffic on each highway approach. The gap between the ends of the entrance and exit gates (on the same side of the railroad tracks) when both are in the fully lowered, or down, position must be less than two feet if no median is present. If the highway approach is equipped with a median or a channelization device between the approach and exit lanes, the lowered gates must reach to within one foot of the median or channelization device, measured horizontally across the road from the end of the lowered gate to the median or channelization device or to a point over the edge of the median or channelization device. The gate and the median top or channelization device do not have to be the same elevation.

Gates with Medians or Channelization Devices

- Installed medians or channelization devices on both highway approaches to a public highway-rail grade crossing.

One-Way Street with Gates

- Gate(s) must be installed such that all approaching highway lanes to the public highway-rail grade crossing are completely blocked.

- Gate arms on the approach side of the crossing should extend across the road to within one foot of the far edge of the pavement. If a gate is used on each side of the road, the gap between the ends of the gates when both are in the lowered, or down, position must be no more than two feet. If only one gate is used, the edge of the road opposite the gate mechanism must be configured with a non-traversable curb extending at least 100 feet.

Permanent Closure

- Permanently close the crossing to highway traffic. The closure system must completely block highway traffic from entering the grade crossing.

Temporary Closure

- The closure system must completely block highway traffic on all approach lanes to the crossing.

- The closure system must completely block adjacent pedestrian crossings.

- The system must be tamper and vandal resistant.

- The closure system must be equipped with a monitoring device that contains an indicator visible to the train crew prior to entering the crossing. The indicator must illuminate whenever the closure device is deployed.

Alternative Safety Measures:

✓ If the crossing has an Alternative Safety Measure (ASM) which requires FRA's approval, check the appropriate ASM type and provide a description. If Engineering ASMs or Non-Engineering ASMs are implemented, please ensure the recordkeeping is compliant. If the crossing is not equipped with an ASM, check "None."

Engineering ASMs

- Engineering improvements, other than modified SSMs, may be used in the creation of a quiet zone. These engineering improvements, which will be treated as ASMs, may include improvements that address underlying geometric conditions, including sight distance, that are the source of increased risk at the crossing.

Modified Supplementary Safety Measures

- SSMs that are not fully compliant with the requirements are treated as ASMs. Some examples of modified SSMs include:

- Short medians or channelization devices (less than 100 feet in length, if there is no intersection within 100 feet of the gate arm—or less than 60 feet in length, if there is an intersection within 100 feet of the gate arm).

- Three-quadrant gates (entrance gates for both highway approaches, but only one exit gate).

- Medians or channelization devices with driveways to active and commercial facilities or intersections within 60 feet of the gate arm.

Non-Engineering ASMs

- For non-engineering ASMs, a statistically valid baseline violation rate must be established through automated or systematic manual monitoring or sampling at the subject crossing(s). Also, a law enforcement effort must be defined, established, and continued, along with continual or regular monitoring. The public authority must retain records pertaining to monitoring and sampling efforts at the grade crossing for a period of not less than five years.

  - Photo Enforcement: This ASM entails automated means of gathering valid photographic or video evidence of traffic law violations at a public highway-rail grade crossing together with follow-through by law enforcement.

  - Programmed Enforcement: This ASM requires the community and law enforcement officials to commit to a systematic and measurable crossing monitoring and traffic law enforcement program at the public highway-rail grade crossing, alone or in combination with the Public Education and Awareness ASM.

  - Public Education and Awareness: This ASM requires the community to conduct, alone or in combination with programmed law enforcement, a program of public education and awareness directed at motor vehicle drivers, pedestrians, and residents near the railroad to emphasize the risks associated with public highway-rail grade crossings and applicable requirements of State and local traffic laws at those crossings.

Power-Out Indicator: Yes or No?

- ✓ Check the "Yes" box if there is a power-out indicator.

- ✓ Check the "No" box if there is not a power-out indicator.

- A power-out indicator is a device capable of indicating to train crews approaching a grade crossing equipped with an active warning system whether commercial electric power is activating the warning system at the crossing, which includes remote health monitoring of grade crossing warning systems if such monitoring systems are equipped to indicate power status.

Wayside Horn Installed: Yes or No?

✓ Check the "Yes" box if the crossing is equipped with a wayside horn.

✓ Check the "No" box if the crossing is not equipped with a wayside horn.

- A wayside horn is a stationary horn designed to provide audible warning to oncoming motorists and pedestrians upon the approach of a locomotive or train.

Part IV: MEDIANS/CHANNELIZATION DEVICES

IV. MEDIANS/CHANNELIZATION DEVICES	
Type of Median/Channelization Device	☐ None ☐ Channelization devices - Missing Vertical Panels or Tubular Delineators ☐ Yes ☐ No ☐ Non-traversable curbs - 6 inch height or higher ☐ Yes ☐ No If no, why? _____ - 40 mph highway speed or lower ☐ Yes ☐ No If no, why? _____
Gap between lowered gate and curb one foot or less	☐ Yes ☐ No
Length of Median(s)/Channelization Devices	Length 1 _____ Length 2 _____
Commercial or Industrial Driveway or Highway Intersections within 60 feet of the gate arm	☐ Yes ☐ No If yes, what is the distance from the gate arm, for each? NORTHEAST _____ NORTHWEST _____ SOUTHEAST _____ SOUTHWEST _____

This section should be completed for all highway-rail grade crossings.

Type of Median or Channelization Device: If the crossing has a median or channelization device, check the type and complete the appropriate section. If the crossing does not have a median or channelization device, check "None" and proceed to Part V.

Channelization Devices

- ✓ Check "Yes" if there are any missing vertical panels or tubular delineators.
- ✓ Check "No" if there are no missing vertical panels or tubular delineators.
    - Channelization devices are a traffic separation system made up of a raised longitudinal channelizer, with vertical panels or tubular delineators, that are placed between opposing highway lanes designed to alert or guide traffic around an obstacle or to direct traffic in a particular direction.

Non-traversable Curbs

- ✓ Check "Yes" if the curbs are 6 inches in height or higher.
- ✓ Check "No" if the curbs are less than 6 inches in height and explain why.
- ✓ Check "Yes" if the highway speed is 40 mph or lower.
- ✓ Check "No" if the highway speed is over 40 mph and explain why.
    - Non-traversable curbs are highway curbs designed to discourage a motor vehicle from leaving the roadway. Non-traversable curbs are at least 6 inches high and are used at locations where highway speeds do not exceed 40 miles per hour. **A waiver must be in effect if the highway speed exceeds 40 miles per hour.**

Gap between lowered gate and curb one foot or less: Yes or No?

- ✓ Check "Yes" if the gap between the lowered gate and the curb is one foot or less.
- ✓ Check "No" if the gap between the lowered gate and the curb is more than one foot.

Length of Median(s)/Channelization Devices:

- ➢ Enter the length of each median or channelization device measured from the gate tip to the tapering of the median or the end of the channelization device.
    - Medians or channelization devices must extend at least 100 feet from the gate arm. If there is an intersection within 100 feet of the gate, the median or channelization device must extend at least 60 feet from the gate arm.

Commercial or Industrial Driveway or Highway Intersections Within 60 Feet of the Gate Arm: Yes or No?

- ✓ Check "Yes" if there is a driveway or intersection within 60 feet of the gate arm. Enter the distance from the gate arm for each quadrant.

- ✓ Check "No" if there are no driveways or intersections within 60 feet of the gate arm.

    - Intersections of two or more streets—or a street and an **alley**—that are within 60 feet of the gate arm must be closed or relocated. Driveways for private, residential properties (up to four units) within 60 feet of the gate arm are not considered to be intersections under Part 222 and need not be closed. Driveways accessing commercial and industrial properties are considered to be intersections and are not allowed within 60 feet of the gate arm. **If there is a commercial or industrial driveway within 60 feet of the gate arm, there should be an approved Public Authority Application to FRA on file in the iCMS database.**

Part V: ROADWAY

V. ROADWAY	
Advance Warning Sign	☐ Yes ☐ No
ENS Sign	☐ Yes ☐ No
Flashers	☐ Yes ☐ No
Gates	☐ Yes ☐ No
No Train Horn Sign	☐ Yes ☐ No
Issues/Obstructions	☐ Yes ☐ No

- ✓ Check "Yes" or "No" if the specified signs and signals are present during the inspection. Record all issues and/or obstructions.

    - Note: Advance Warning Signs may not be required per the Manual on Uniform Traffic Control Device (MUTCD).

Part VI: PATHWAY/PEDESTRIAN CROSSING

VI. PATHWAY/PEDESTRIAN CROSSING	
Crossbuck Sign	☐ Yes ☐ No
ENS Sign	☐ Yes ☐ No
Flashers	☐ Yes ☐ No
Gates	☐ Yes ☐ No
No Train Horn Sign	☐ Yes ☐ No
Stop Sign	☐ Yes ☐ No
Issues/Obstructions	☐ Yes ☐ No
Improvements Recommended by the Diagnostic Team:	_____ Installed ☐ Yes ☐ No

- ✓ Check "Yes" or "No" if the specified signs and signals are present during the inspection. Record all issues and/or obstructions.
- ✓ Check "Yes" if the improvements recommended by the diagnostic team have been installed, and list the improvements.
    - The improvements recommended by the diagnostic team are listed in the Notice of Establishment.

Part VII: PRIVATE CROSSING

VII. PRIVATE CROSSING	
Crossbuck Sign	☐ Yes ☐ No
ENS Sign	☐ Yes ☐ No
No Train Horn Sign	☐ Yes ☐ No
Stop Sign	☐ Yes ☐ No
Improvements Recommended by the Diagnostic Team:	_____ Installed ☐ Yes ☐ No ☐ Not Required

- ✓ Check "Yes" or "No" if the specified signs and signals are present during the inspection. Record all issues and/or obstructions.
- ✓ Check "Yes" if the improvements recommended by the diagnostic team have been installed, and list the improvements.

- The improvements recommended by the diagnostic team are listed in the Notice of Establishment.

Part VIII: NOTES

- Record your recommendations of needed safety improvements and other corrective actions.

National Safety Program Plan Status Reports

A National Safety Program Plan is developed by both the HRGX&TP Staff Director for national or multiregional scope, and by each respective region as it deems necessary. Each project identified is expected to be accompanied by a status report at the end of each quarter, and a final report is due at the end of the fiscal year. Where applicable, each region is to forward to the HRGX&TP Staff Director the information he or she requires to complete the status reports for the HQ projects that involved the region's efforts.

Other Special Project Reports

Any time a special project, assessment, team, or focused effort is conducted, the expectation is that a resulting report will be prepared regarding the issues identified, actions taken, findings, and the results or outcome. This report may be regional, multiregional, or national in scope. The report should be provided to the originator of the project, but at least one copy should be provided to the appropriate HRGX&TP HQ staff.

APPENDIX A: Inspection Details for Compliance with 49 CFR Part 234, Subpart F, Inventory

Section 1 – Location for Inspecting Inventory Records

To review the most recently updated records, Inspectors should examine the railroad's Inventory Forms (either an electronic copy or hard copy) for compliance instead of the Inventory Forms online. The railroad must update each crossing record at least once every 3 years. This 3-year period is measured from the postmark date on any hard-copy submission or the email date if the railroad emails a scanned PDF of the Inventory Form to FRA. It can take several weeks for FRA's contractor to input the updates into the system and have them available on the public website. Even for those railroads using the Grade Crossing Inventory System (GCIS) to submit updates, the online updates may not always happen immediately and could take a few weeks to show up on the public Inventory website.

Taking the potential for a delay into account, an online review of the Inventory records may provide an incomplete picture to the Inspector. Although the actual Inventory Form may have been updated by the railroad, it might not yet be available online. For instance, the most recent update online may indicate that the railroad has exceeded the 3-year periodic update requirement, but in fact, the railroad may have already have submitted updated information to FRA. A review of the railroad's records would indicate that the railroad is in compliance with the 3-year periodic update requirement even though the Inventory records online do not reflect the updated information.

In accordance with 49 CFR § 234.413 and 49 CFR § 234.415, railroads must keep either hard copy or electronic records of the Inventory forms. Hard copy records dating back at least four (4) years from the date of submission to the Inventory or June 2016 (whichever is later) must be made available to FRA for inspection. If a railroad keeps electronic records, then it must have the ability to print out hard copy records for FRA inspection upon request.

If physical attributes of the crossing need to be verified, they must be verified in the field with a site visit. Although there are websites like Google Street View that may show images of the crossing, the images could be out of date or not clear enough to capture all the details (such as the Emergency Notification System (ENS) phone number).

Section 2 – Railroad Data Versus State Data

The following parts of this Guidance go through each section of the Inventory Form and describe what the Inspector should focus on, including discussions of the data fields that must be updated by railroads and the data fields that are voluntarily updated by States.

It is important for Inspectors not to take enforcement action against a railroad for incorrect or missing data that are the States' responsibility.

The Guide for Preparing U.S. DOT Crossing Inventory Forms (*Guide*) is available online at https://www.fra.dot.gov/eLib/Details/L16201. It provides instructions for each field of the Inventory Form and describes how the information should be reported. In Appendix B of the *Guide*, there is a table that shows which fields of the Inventory Form should be voluntarily updated by the States, and which fields must be updated by the railroads.

For public grade crossings, railroads are required to update Part II of the Inventory Form. (As detailed in Appendix B of the *Guide*, railroads are also required to update certain fields in Part I of the Inventory Form.)

For public grade crossings, Parts III, IV, and V of the Inventory Form are generally updated on a voluntary basis by the States. In addition, the States voluntarily update some of the data fields in Part I of the Inventory Form, including the latitude and longitude fields.

For private grade crossings, railroads are required to update Parts I and II of the Inventory Form (including the latitude and longitude fields), as well as Part III, Box 2.K of the Inventory Form. Parts III, IV, and V are not required to be updated for private crossings.

As discussed in subsequent parts, the Inspector should generally focus on verifying the fields in Parts I and II of the Inventory Form that railroads are required to update. If the Inspector does review the State fields for public crossings and finds information to be incorrect, the Inspector should not take action against the railroad for these errors. The Inspector should contact the State Crossing Inventory Point of Contact using the contact information on FRA's website: https://www.fra.dot.gov/Page/P1027. The Inspector should notify the State of the information that was found to be missing or incorrect, and he or she should suggest that the State make any necessary revisions.

Section 3 – Inspecting Update Frequency

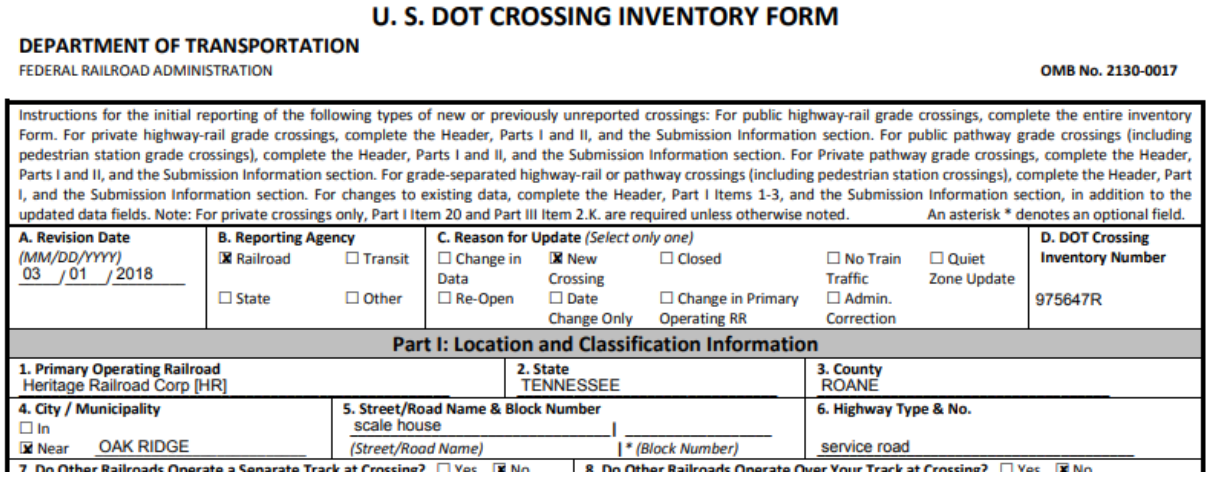
Inspectors should determine if the Primary Operating Railroad has reported new crossings and updated existing crossings within the timeframe specified in the regulations.

3.1 New Crossings

According to 49 CFR § 234.407, the Primary Operating Railroad must report new crossings to the Inventory within 6 months of the crossing becoming operational. Inspectors should note that according to the definitions under 49 CFR § 234.401, a Temporary Crossing is one that is operational for fewer than 6 months and should not be reported to the Inventory.

While it may be hard to determine the exact date a crossing became operational, the Inspector should note if the "Reason for Update" in Box C of the header of the Inventory Form is "New Crossing" (Figure 1).

Figure 1: Example of an Inventory Form indicating a new crossing



U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
03 / 01 / 2018	☒ Railroad ☐ Transit ☐ State ☐ Other	☐ Change in Data ☒ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	975647R

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
Heritage Railroad Corp [HR]	TENNESSEE	ROANE

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☐ In ☒ Near OAK RIDGE	scale house (Street/Road Name) | * (Block Number)	service road

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No | 8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No

If the Inventory Form for the crossing being inspected does indicate "New Crossing" in Box C of the header, the Inspector may consult with the roadway agency to determine the opening date of the crossing, and if the date was within 6 months of the date the crossing was reported to the Inventory, as shown in Box A of the header.

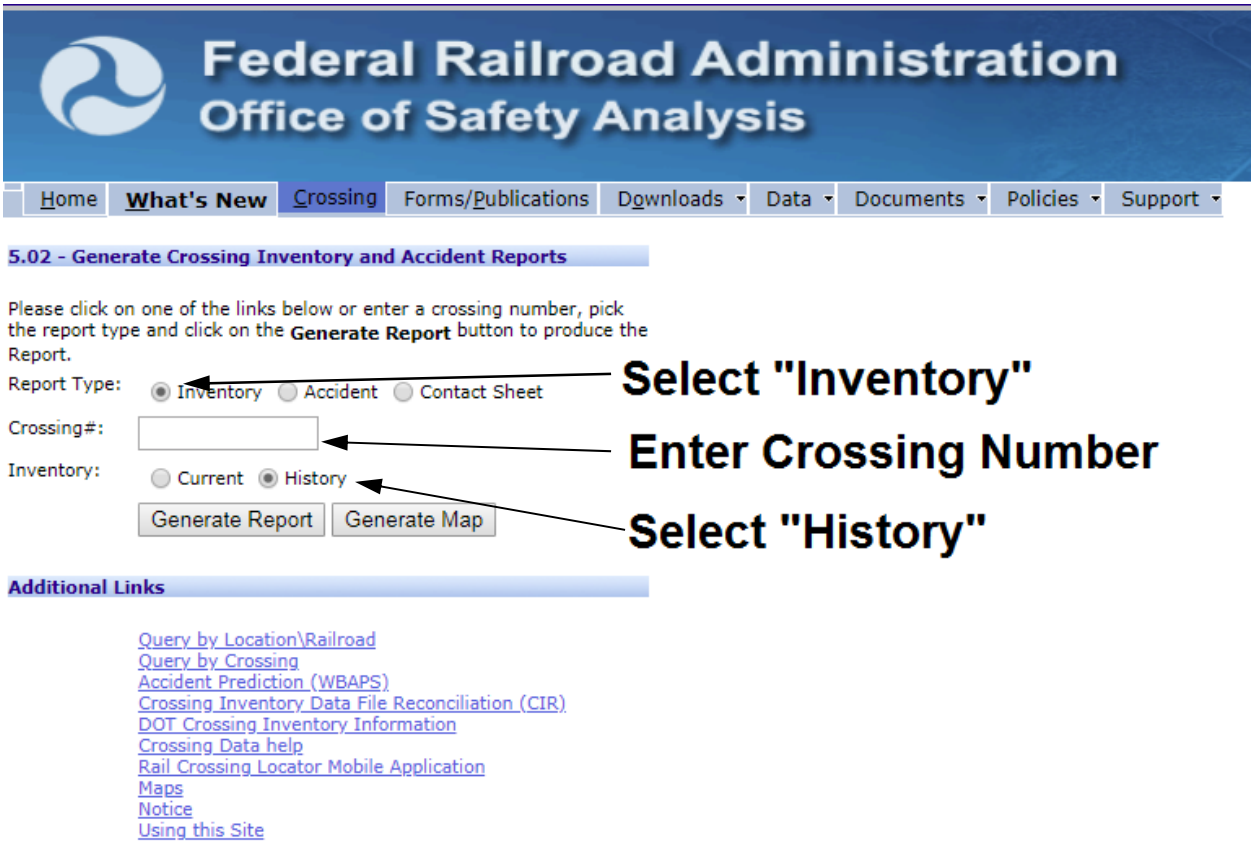
New crossings that have not yet been reported to the Inventory are discussed in Section 7.

3.2 Updates to Existing Crossings

According to 49 CFR § 234.409, Primary Operating Railroads must submit updated Inventory Forms at least once every 3 years from the date of the last Inventory update submitted by the Primary Operating Railroad.

Box A of the header of the Inventory Form indicates the most recent update. However, the Inspector should also note the agency in Box B of the header. The most recent update could have been provided by the State, Transit Agency, or Other (which could include FRA). To determine when the Primary Operating Railroad last updated the Inventory Form, the Inspector can review the railroad's records to see the date of the last railroad update. In addition, the Inspector can review a crossing's Inventory History on the Safety Data website (Figure 2) at: https://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/Crossing.aspx.

Figure 2: View of Safety Data website showing how to review a crossing's Inventory History



The history will show all the updates to a crossing record, along with the date of the update and the agency that provided the update.

According to 49 CFR § 234.411, certain changes to the crossing require more frequent updates than the 3-year updates. For example:

- If a crossing is sold, the Primary Operating Railroad must update the Inventory within 3 months of the sale (49 CFR § 234.411(a)).

- If a crossing is closed, the Primary Operating Railroad must report the closure within 3 months from the date it is closed (49 CFR § 234.411(b)).

- For public highway-rail grade crossings, if there are changes in the crossing characteristics, the Primary Operating Railroad must report the changes within 3 months of the date of the change (49 CFR § 234.411(c)). Under this CFR section, the regulations define a change in crossing characteristics to mean a change in the crossing surface or a change in warning device. "Change in warning device" means the addition or removal of a crossbuck, yield or stop sign, flashing lights, or gates.

The Inspector should note that the information reflected in the online Inventory may not reflect the current conditions at the crossing because of the potential processing delays noted above. For instance, the train counts in Part II of the Inventory Form would reflect the train counts on the date of the most recent update by the Primary Operating Railroad. These train counts could vary considerably from the date of the inspection, especially if the inspection is conducted almost 3 years from the last update.

3.3 Closed and Grade-Separated Crossings

According to the regulations, grade-separated crossings and closed crossings do not need to be updated by the Primary Operating Railroad.

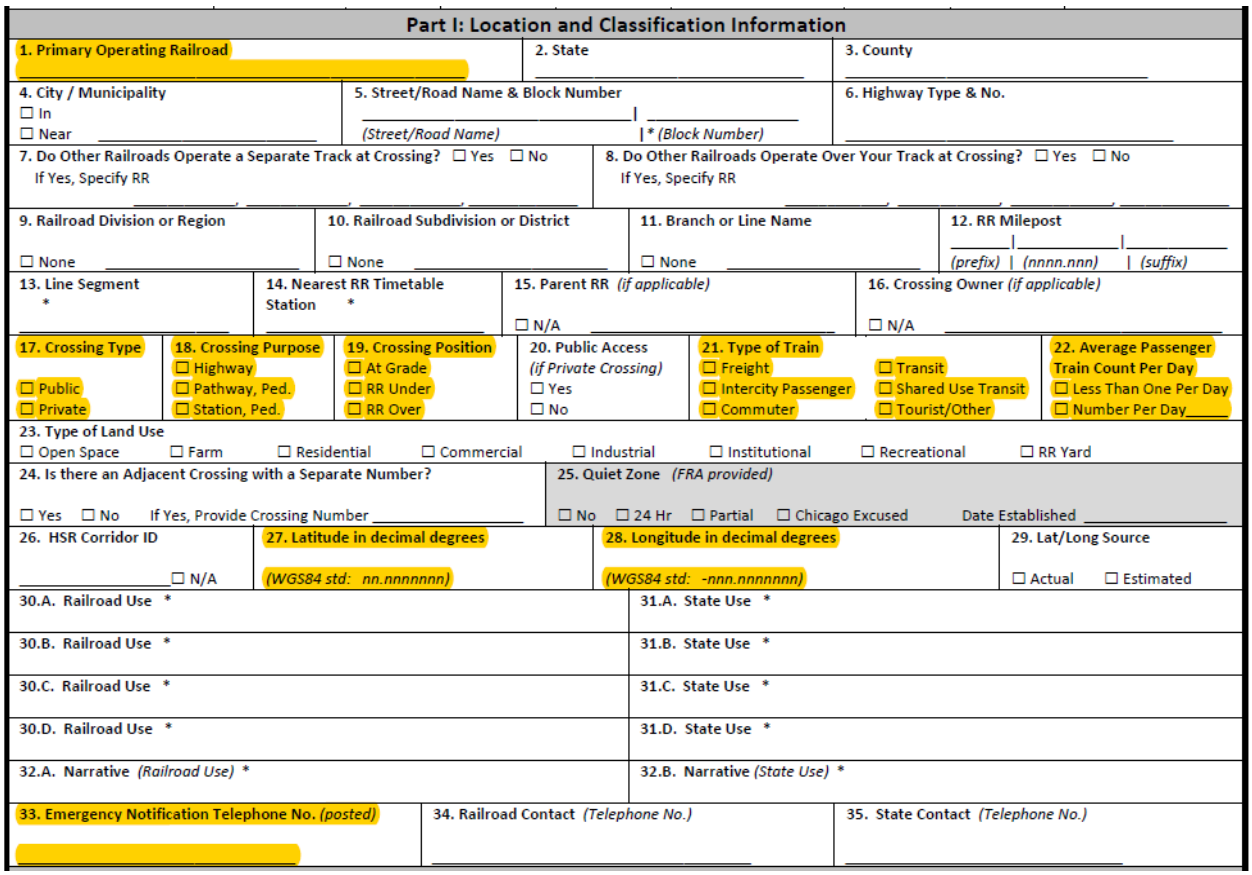
A crossing is reported "closed" in the Inventory by a railroad selecting "Closed" in Box C (Reason for Update) of the header. The Inspector should be aware that a railroad or State may update the crossing even after the crossing is closed. Therefore, the most recent update may have a different Reason for Update selected in Box C of the header. The Inspector should always review the entire history of the Inventory record to determine if the crossing was closed in a previous update. If a previous update closed the crossing but a more recent update made other changes, no enforcement action should be taken against the railroad because the railroad is not required to update a closed crossing.

Grade-separated crossings are reported in Part I, Box 19 as either "RR Under" or "RR Over." Similar to closed crossings, grade-separated crossings do not need to be updated by the railroad, and no enforcement action should be taken against the railroad if there has not been an update within the last 3 years.

Section 4 – Inspecting Railroad Data in Part I

Although all fields in Part I of the Inventory Form may be analyzed for accuracy, several key boxes in Part I should be focused on by the Inspector. *See* Figure 3, below.

Figure 3: Part I data fields to be inspected



Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
4. City / Municipality ☐ In ☐ Near	5. Street/Road Name & Block Number (Street/Road Name) | * (Block Number)	6. Highway Type & No.
7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☐ No If Yes, Specify RR	8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☐ No If Yes, Specify RR	
9. Railroad Division or Region ☐ None	10. Railroad Subdivision or District ☐ None	11. Branch or Line Name ☐ None
12. RR Milepost (prefix) | (nnnn.nnn) | (suffix)		
13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR *(if applicable)* ☐ N/A
16. Crossing Owner *(if applicable)* ☐ N/A		
17. Crossing Type ☐ Public ☐ Private	18. Crossing Purpose ☐ Highway ☐ Pathway, Ped. ☐ Station, Ped.	19. Crossing Position ☐ At Grade ☐ RR Under ☐ RR Over
20. Public Access *(if Private Crossing)* ☐ Yes ☐ No	21. Type of Train ☐ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	22. Average Passenger Train Count Per Day ☐ Less Than One Per Day ☐ Number Per Day____
23. Type of Land Use ☐ Open Space ☐ Farm ☐ Residential ☐ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard		
24. Is there an Adjacent Crossing with a Separate Number? ☐ Yes ☐ No If Yes, Provide Crossing Number	25. Quiet Zone *(FRA provided)* ☐ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established	
26. HSR Corridor ID ☐ N/A	27. Latitude in decimal degrees *(WGS84 std: nn.nnnnnnn)*	28. Longitude in decimal degrees *(WGS84 std: -nnn.nnnnnnn)*
29. Lat/Long Source ☐ Actual ☐ Estimated		
30.A. Railroad Use *	31.A. State Use *	
30.B. Railroad Use *	31.B. State Use *	
30.C. Railroad Use *	31.C. State Use *	
30.D. Railroad Use *	31.D. State Use *	
32.A. Narrative *(Railroad Use)* *	32.B. Narrative *(State Use)* *	
33. Emergency Notification Telephone No. *(posted)*	34. Railroad Contact *(Telephone No.)*	35. State Contact *(Telephone No.)*

Box 1 indicates the "Primary Operating Railroad" for the crossing. The Primary Operating Railroad is important for the Inspector to verify because it is the entity responsible for submitting and updating the Inventory Form. The definition of a Primary Operating Railroad can be found under 49 CFR § 234.401:

> *Primary operating railroad* means the operating railroad that either owns or maintains the track through the highway-rail or pathway crossing, unless the crossing is located within a private company, port, or dock area. If more than one operating railroad either owns or maintains the track through the highway-rail or pathway crossing, or if no operating railroad owns or maintains the track through the highway-rail or pathway crossing, then the operating railroad that operates the highest number of trains through the crossing is the primary operating railroad. In the event that there is only one operating railroad that operates one or more trains through a highway-rail or pathway crossing, that operating railroad is the primary operating railroad. For highway-rail and pathway crossings that are located within a private company, port, or dock area ("private area"), each railroad that owns track leading to the private company, port, or dock area will be considered a primary operating railroad for all crossings within the private area if a general system railroad operates over the railroad's track leading to the private area and through at least one crossing within that area.

For this definition, each sentence is explained using hypothetical examples to determine the Primary Operating Railroad:

- If a railroad owns the track(s) through the crossing and it operates through the crossing, regardless of how many other railroads operate through the crossing, then it is the Primary Operating Railroad (Figure 4).

Figure 4: Example of a railroad owning and operating on tracks at a crossing

In this example, Union Pacific is the Primary Operating Railroad if it owns the tracks through the crossing and operates over it, even if other railroads operate over the crossing.

- If multiple operating railroads own the track(s) through the crossing, then the operating railroad that operates the most trains through the crossing is the Primary Operating Railroad (Figure 5).

Figure 5: Example of multiple railroads operating on separate tracks at a crossing

In this example, CSX is the Primary Operating Railroad because it has more trains per day operating through the crossing than Norfolk Southern (NS).

- Outside of a private company, port, or dock area, if no operating railroad owns the tracks through the crossing (for instance, the crossing is owned by the State or a private company), and one or more railroads operate through the crossing, then the railroad that operates the most trains through the crossing is the Primary Operating Railroad. Note: in this situation, the Primary Operating Railroad responsible for the Inventory does not actually own the tracks through the crossing (Figure 6).

Figure 6: Example of a crossing where no operating railroad owns the tracks

In this example, Amtrak is the Primary Operating Railroad because it operates more trains per day through the crossing than NS. Amtrak does not own the tracks, but it is still the Primary Operating Railroad for this crossing.

- Outside of a private company, port, or dock area, if only one railroad operates over a crossing, regardless of who owns the tracks, then that railroad is the Primary Operating Railroad (Figure 7).

Figure 7: Example where only one railroad operates over a crossing

In this example, Kansas City Southern Railway is the Primary Operating Railroad even though it does not own the tracks and only operates one train per week at the crossing.

- For private company, port, or dock areas, any railroad that owns track leading to the private area is considered a Primary Operating Railroad for the crossings in the private area, if at least one general system railroad operates on the railroad's track leading to the private area and operates through at least one grade crossing within the private area.

If the Primary Operating Railroad changes, the existing Primary Operating Railroad must update the Inventory Form and change Part I, Box 1 to the new Primary Operating Railroad.

Box 17 should be verified by the Inspector. This field indicates whether the crossing is a public or a private crossing. The State can change this data field if it is a public crossing, and the railroad can change this data field if it is a private crossing. This field is important to verify, because if a crossing is incorrectly classified as "Private," then most of the fields in Parts III, IV, and V of the Inventory Form cannot be filled in by the State, even though they are critical for States when determining priority or hazard rankings for improvement funds. Also, the Inspector should verify that if the crossing is selected as "Public," then the crossing meets the definition of a public crossing. The roadway must be owned and maintained by a public agency, and all approaches must be open to public travel. For instance, a crossing on a military base may be

owned by a public agency (U.S. Department of Defense), but if access is limited by a security gate, then it would be reported as a private crossing in the Inventory.

Box 18 indicates whether the crossing is a highway-rail or pedestrian crossing. Similar to Box 19, this field can make the difference in whether a crossing receives priority in some States' ranking formulas for improvements. There have been instances in which a vehicle-train collision occurred at a crossing, and a review of the Inventory Form revealed that the crossing was mistakenly reported as a pedestrian crossing.

Box 19 indicates whether the crossing is at-grade or grade-separated. This distinction is important to verify because only at-grade crossings are ranked by States for improvement through programs like Section 130. Similar to Box 18, even though only at-grade crossings will be inspected as part of this Guidance, there have been instances in which a collision has occurred at a crossing, and a review of the Inventory Form revealed that the crossing was mistakenly reported as grade-separated.

Box 21 indicates the types of trains that use the crossing. Many States use ranking formulas that consider the type of trains using a crossing because passenger, commuter, and transit trains have more risk exposure due to the presence of passengers on board. The Inspector can check Amtrak route maps or local commuter or transit agency maps to determine if trains other than freight trains use the crossing.

Box 22 shows how many passenger trains use the crossing on average per day. If passenger trains are selected in Box 21, the Inspector should ensure that a number has been entered in Box 22. Also, if Box 21 only indicates freight trains, then Box 22 should be left blank or a zero (0) should be entered. The approximate number of passenger trains can be verified by looking at the Amtrak schedule and/or the transit agency schedule of commuter trains.

Boxes 27 and 28 indicate the geographic location of the crossing with latitude and longitude coordinates. For public crossings, the State voluntarily provides the updates for this field. If the data is incorrect or missing for public crossings, the Inspector should not take enforcement action against the railroad, although the Inspector should notify the State Crossing Inventory representative of the error. In general, for public crossings, the Inspector should verify that this field is not blank. If the Inspector is at the site in the field, the Inspector may verify the latitude and longitude coordinates by using a GPS device (such as a mobile phone app) at the physical crossing location.

For private crossings, the Inspector may verify the latitude and longitude coordinates in one of two ways:

- The Inspector may use mapping software or websites such as Google Maps.
- If it is possible to lawfully and safely access the site, the Inspector may use a GPS device at the physical crossing location in the field.

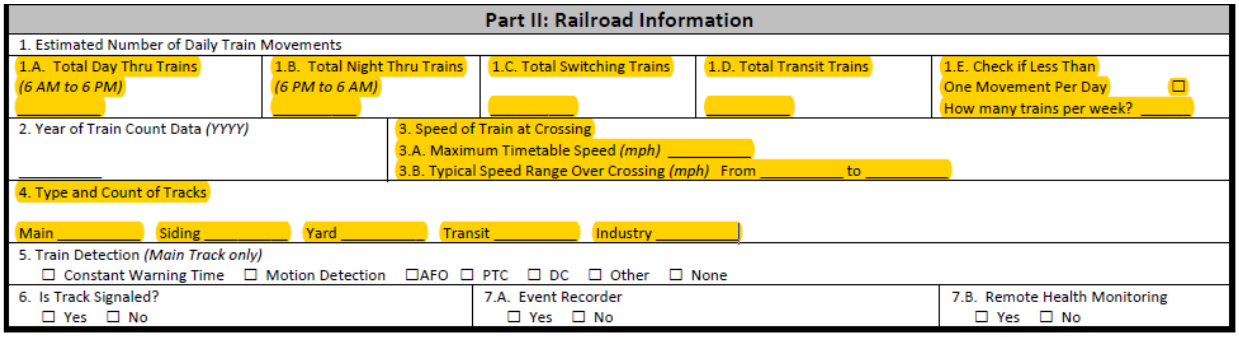
The latitude and longitude should be reported in decimal format and should be reported to at least 5 decimal digits to a maximum of 7 decimal digits. Five decimal digits is accurate to between 4 and 5 feet.

Box 33 shows the phone number posted on the ENS sign at the crossing. If the Inspector is verifying information in the field, the Inspector should make sure that the ENS phone number in Part I, Box 33 matches the number posted on the sign in the field. The FRA Crossing Locator App and other sources pull Inventory information for the ENS phone number, and phone calls have been made to the ENS based on the Locator App and Inventory Form. An incorrect phone number could result in delayed or failed reporting of an emergency or malfunctioning grade crossing warning device.

Section 5 – Inspecting Railroad Data in Part II

Figure 8 highlights fields in Part II that should be inspected.

Figure 8: Part II data fields to be inspected



Box 1 shows the train traffic at the crossing. This information is critical to hazard ranking formulas and accident prediction models.

The information for train counts reported on the Inventory Form can be checked against a railroad's dispatching records. According to 49 CFR § 228.17, each carrier must keep (for each dispatching district) a record of train movements made under the control of a dispatcher. These records must be retained for up to 2 years, and must be provided to FRA upon request. Prior to the review, the Inspector should request this information from the railroad. If the last update to the Inventory was less than 2 years ago, the Inspector should request the dispatching records from the date of the most recent update. If the last update was more than 2 years ago, then the Inspector should request the oldest applicable dispatching records available (which will likely be 2 years old).

One potential source of confusion can happen when railroads double-count the trains in Boxes 1.A through 1.D and submit that data. The "Total Day Thru Trains" and "Total Night Thru Trains" in Boxes 1.A and 1.B, respectively, should not include the "Total Switching Trains" in Box 1.C or the "Total Transit Trains" in Box 1.D.

For instance, if there are 10 total Day Thru trains and 4 total Switching trains at night, then Boxes 1.A through 1.E should be reported as shown in Figure 9.

Figure 9: Example of reporting train counts

Part II: Railroad Information				
1. Estimated Number of Daily Train Movements				
1.A. Total Day Thru Trains *(6 AM to 6 PM)* **10**	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains **4**	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?

If there are no Thru trains and no Switching trains, but there are 36 daytime transit trains and 36 nighttime transit trains, then Boxes 1.A through 1.E should be reported as shown in Figure 10.

Figure 10: Example of reporting train counts with only transit trains

Part II: Railroad Information				
1. Estimated Number of Daily Train Movements				
1.A. Total Day Thru Trains *(6 AM to 6 PM)*	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains	1.D. Total Transit Trains **72**	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?

Some railroads mistakenly take the number of transit trains listed in Box 1.D and also list them in the Thru train counts in Boxes 1.A and 1.B. (This error may also occur with the count of Switching Trains in Box 1.C). However, the instructions in the *Guide* indicate that transit trains should not be included in the counts of Thru train and Switching train movements or double-counted. The total number of trains for the entire day should equal the sum of Boxes 1.A through 1.D.

Here's a real-world example: A railroad with 36 daytime transit trains and 36 nighttime transit trains (in the example above) originally reported 72 trains in Box 1.D, but also reported 36 trains each in Boxes 1.A and Boxes 1.B. The likelihood of the transit train count equaling the through train counts of non-transit trains is very low and would be a flag to examine that information more closely. The railroad was informed of this error and revised the data to match the example above.

Also, the Inspector should refer to the *Guide* for an explanation of Thru trains and rapid transit operations in an urban area (transit trains). Thru trains include passenger trains and commuter rail trains that are regulated by FRA. Transit trains carry passengers from station to station within an urban area and are not regulated by FRA unless they have a connection to the general railroad system of transportation.

If there is less than one train per day at the crossing, then Box 1.E should be checked with an estimated count of the average trains per week. Box 1.E should only be checked and the weekly train count only filled in if Boxes 1.A through 1.D are 0 or blank. Figure 11 shows an **incorrect** way to enter the information.

Figure 11: Example of an incorrect method to enter train count data

Part II: Railroad Information				
1. Estimated Number of Daily Train Movements				
1.A. Total Day Thru Trains *(6 AM to 6 PM)* 5	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week? 35

When inspecting train counts, the Inspector should take into consideration that the Inventory Form reflects an estimated number of trains, on average, that use the crossing per day. The train count data in the Inventory may not match the actual conditions at the crossing because of the following reasons:

- The most recent Inventory update could have been up to 3 years ago and the train counts have increased or decreased since the last update.
- The railroad could have seasonal traffic. For instance, a railroad that operates a tourist train in the summer could have little to no train operations in the winter.
- Also, a train line that hauls mostly agricultural products may have increased operations during a harvest season compared to other times of the year.

If there is a large difference in the total train counts between what is shown on the Inventory Form and the dispatching records, then the railroad may be able to provide insight as to why there is a difference. The Inspector will have to use judgement to determine if the train counts shown on the Inventory Form represent what the likely train counts were at the time of the update.

Box 3 shows the speed of the trains at the crossing, which is critical for some States' ranking formulas. The information for 3.A (maximum speed) can be verified by obtaining the timetables from the railroads. However, the maximum speed may be less than the maximum timetable speed if there are speed restrictions in place. The typical speed range in 3.B may not be easy to verify. If the value is reasonable, an Inspector's best judgement should be used to determine if further in-depth investigation of the dispatching records is warranted.

Box 4 shows the number of tracks at a crossing. This number can be verified by visiting the site in the field.

Section 6 – Inspecting Data in Parts III, IV, and V

For Private Crossings, with the exception of Part III, Box 2.K, railroads are not required to provide data in Parts III, IV, and V of the Inventory Form. (Railroads need to update Part III, Box 2.K to indicate whether private crossing signs have been installed at the crossing.)

Parts III, IV, and V of the Inventory Form are voluntarily updated by the States for public highway-rail grade crossings. In general, the Inspector should not spend much time verifying the roadway information in Parts III, IV, and V, because this information is voluntarily provided by the States. However, a brief discussion of these parts of the Inventory and the specific data fields that an Inspector could check for public highway-rail grade crossings are included below.

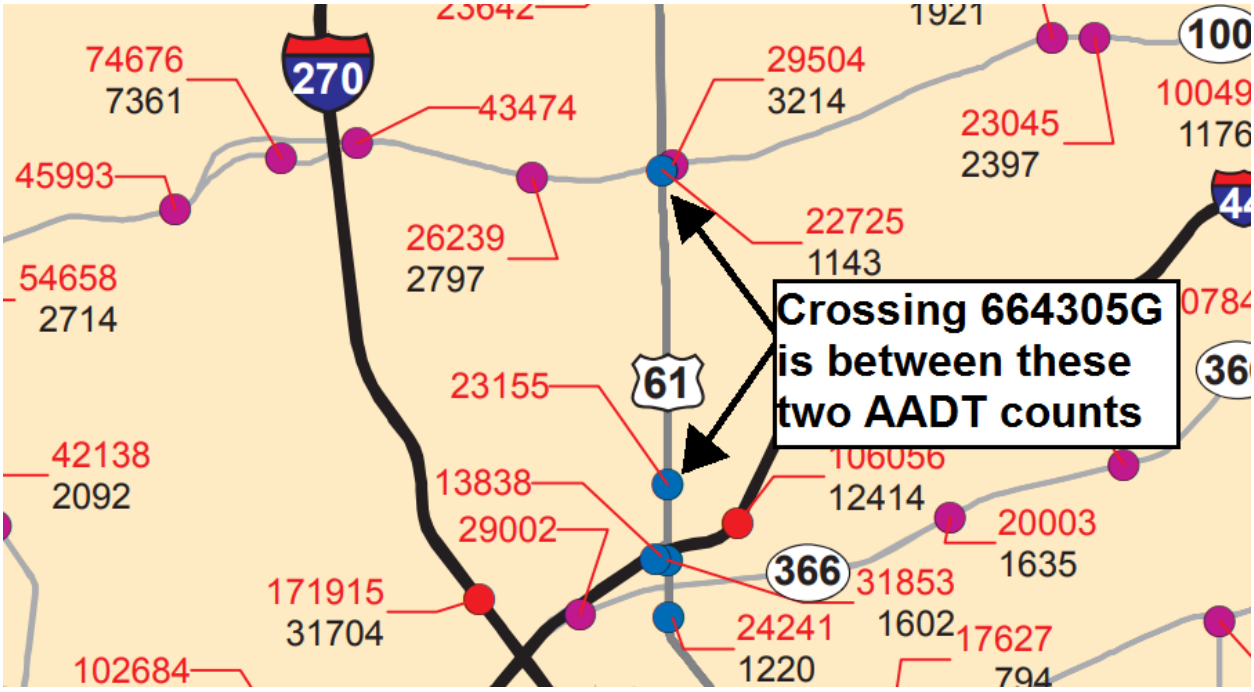
Part III is used by the States to report the type of warning devices installed at the crossing, such as signs, lights, and gates. Part III also is used to report pavement markings and any signal interconnection/preemption with nearby intersections. The Inspector should check to make sure these fields are filled in to indicate the type of warning device. Also, if the Inspector is in the field, the Inspector may check to see if the data on the Inventory Form matches the conditions at the site.

Part IV is used by the States to report the physical characteristics of the roadway. The physical characteristics of the roadway include information on whether the roadway is paved, how many traffic lanes are present, the type of crossing surface, the angle of the crossing, and other information. Similar to Part III, the Inspector should check to make sure these fields are not blank. If the Inspector is in the field at the crossing, the Inspector may check to see if the fields match the conditions at the site.

Part V is used by the States to report the type of roadway and the roadway traffic. Of the fields in Part V, Box 7 is the most important for States' ranking formulas. It provides the annual average daily traffic (AADT) data on how many vehicles use the crossing each day on average. At a minimum, the Inspector should check to make sure this box has a value listed and is not blank. For roads on the State highway systems, the Inspector should reference the State's Department of Transportation (DOT) website for traffic volume maps because most States publish this information on their websites.

For example, in Kirkwood, Missouri, crossing number 664305G is a BNSF double-track mainline at-grade crossing with Kirkwood Road. Kirkwood Road is also U.S. Highway 61 and is therefore maintained by the State. To obtain the traffic volume map, the Inspector can perform a Google search of "Missouri DOT AADT Map." The first website from that search brings up the website for the State's traffic volume maps. From this website, the Inspector can zoom into the vicinity of the crossing, as shown in Figure 12.

Figure 12: Example of AADT map



The crossing is located between the AADT counts of 22,725 vehicles per day to the north, and 23,155 vehicles per day to the south. The Inspector should compare the Inventory Form to determine if the reported AADT is close to these values. Figure 13 shows the Inventory Form for this crossing.

Figure 13: Part V of the Inventory Form with AADT example

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☒ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☒ (7) Local	☒ Yes ☐ No 5. Linear Referencing System *(LRS Route ID)* * 6. LRS Milepost *	35 MPH ☒ Posted ☐ Statutory

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2004 AADT 022252	10 %	☒ Yes ☐ No Average Number per Day 10	☐ Yes ☐ No

The State has reported an AADT of 22,252. This volume is very close to the two nearest AADT counts. However, the year of the AADT was reported by the State as 2004. Although it may be the most recent data that the State has available, if the Inventory has values more than 10 years old, the Inspector should ask the State Crossing Inventory representative if more recent AADT data is available.

Most at-grade crossings are on lower-volume roadways that are maintained by local agencies. For these roads that are not on the State system, it may be possible to find the AADT volumes through the websites of metropolitan planning organizations, county traffic departments, or municipal traffic departments. The Inspector should perform a web search to determine if these traffic volumes are available. However, most roadways not on the State system will not have

AADT volumes publicly available. If the volumes aren't publicly available, the Inspector should verify that Part V, Box 7 has a value and is not blank.

If any data is missing or incorrect in Parts III, IV, and V, for public highway-rail grade crossings, the Inspector should not take enforcement action against the railroads. The Inspector should notify the State Crossing Inventory representative.

Section 7 – Other Inspection Items to Consider

Identifying New Crossings, Crossings with Changes in Characteristics, and Closed Crossings

Although the inspection program will focus on existing crossings, there is no way to identify in the Inventory a crossing that is open but not yet reported. As described in Section 3, new crossings must be reported within 6 months of the date the crossing becomes operational. An inspector could ask the State DOT for any new crossings that have been recently constructed, and then follow up with the railroads to see if they have reported them to the Inventory within 6 months.

Similarly, an inspector could ask the State DOT for a list of projects from their Section 130 Program to identify where changes in warning devices, changes in crossing surfaces, or closures have been constructed. As identified in Section 3, if these changes have been made at a public highway-rail grade crossing, they must be reported to the Inventory within 3 months. The inspector can take the list of projects and check if the railroad has made the updates to the crossing within 3 months.

Other Railroads Operating at the Crossing Besides the Primary Operating Railroad (and How the Train Counts are Reported)

Part I, Box 7

According to 49 CFR § 234.409, if there are other operating railroads that **operate trains on separate tracks** through the crossing, they must update Part II, Boxes 1 through 3 at least once every 3 years. These crossings can be identified by seeing if Part I, Box 7 is checked "yes." Any other railroads **operating on separate tracks through the crossing should be listed** in that box. If there are other railroads operating on separate tracks through the crossing, the Inspector should also inspect the other railroads' Inventory records to determine if they submitted the required information for Part II, Boxes 1 through 3 within the last 3 years.

Part I, Box 8

On the other hand, the Inspector should note that if Part I, Box 8 is checked "yes" to indicate that other operating railroads operate through the crossing **over the tracks the Primary Operating Railroad owns, then the other operating railroads are not responsible** for submitting the information to the Inventory. The Primary Operating Railroad is responsible for reporting all the train traffic values for other operating railroads operating through the crossing over the Primary Operating Railroad's tracks.

Parent-Subsidiary Reporting

The Inspector may run into situations where the Primary Operating Railroad does not have the records because another railroad is reporting on behalf of it.

According to 49 CFR § 234.403(e), a parent company may report on behalf of one or more of its subsidiary railroads. The parent and subsidiary railroads do not need to operate as a seamless network; they can operate as unconnected networks and still meet this requirement.

In order to take advantage of this provision, the parent railroad company must provide a written request to the FRA Associate Administrator for Railroad Safety. FRA has developed letter templates for railroads to use for this written request. The railroad may fill in the parent and subsidiary names along with some other basic information. If a railroad is interested in obtaining a copy of FRA's letter template, it should contact FRA's Crossing and Trespass Prevention Team (RRS-23) and request it.

If a parent company is reporting on behalf of one or more of its subsidiaries, the parent company must submit all their Inventory records electronically through the GCIS. It may not submit records via hard copy even if its subsidiaries are Class II or Class III railroads.

In addition, if a parent company is submitting Inventory records on behalf of one or more of its subsidiary railroads, the parent company must submit all the subsidiary's updates to the Inventory and not just some of the subsidiary's updates.

The Inspector should note that if the parent company is reporting on behalf of one or more of its subsidiaries, and the parent company has the records in the parent company office, the parent company is subject to enforcement action for noncompliance with the reporting or updating, not the subsidiary railroads.

The Inspector should also verify that the parent company has provided the written request to FRA if it is reporting on behalf of one or more of its subsidiaries.

State Reporting on Behalf of Railroad

A State agency may report on behalf of a railroad. To comply with this requirement, both the State agency and the railroad must submit a written request to the FRA Associate Administrator for Railroad Safety. FRA has developed letter templates for States and railroads for these written requests. If a State and railroad are interested in obtaining copies of FRA's letter templates, they should contact FRA's Crossing and Trespass Prevention Team (RRS-23) and request them.

If a State agency is reporting on behalf of a railroad, it must report all of that railroad's crossings in its State.

The Inspector should note that even if a State agency is reporting on behalf of a railroad, and the State agency relies upon records in the parent company office, the subsidiary railroad is still subject to enforcement action for noncompliant reporting or updating.

The Inspector should also verify that the railroad and State agency have provided the written request to FRA if the State agency is reporting on behalf of a railroad.

Section 8 – Additional Inventory Information

Definition of a Railroad Versus Industry or Plant

According to the definitions in 49 CFR § 234.401, each railroad that owns track leading to the private company, port, or dock area will be considered a Primary Operating Railroad for the crossings within the private area and will be responsible for submitting and updating Inventory Forms for those crossings, if a general system railroad operates over the railroad's track leading to the private area and through at least one crossing within that area.

Therefore, a business, such as a plant or industry, that conducts the only operations within its own private facility does not meet this definition. Those businesses are not responsible for submitting and updating Inventory Forms, although they may voluntarily submit and update information in the Inventory.

Transit Agencies

Some transit operators, such as streetcars and light rail systems regulated by the Federal Transit Administration, are not required to submit crossings to the Inventory. However, they may voluntarily submit their crossing information to the Inventory.

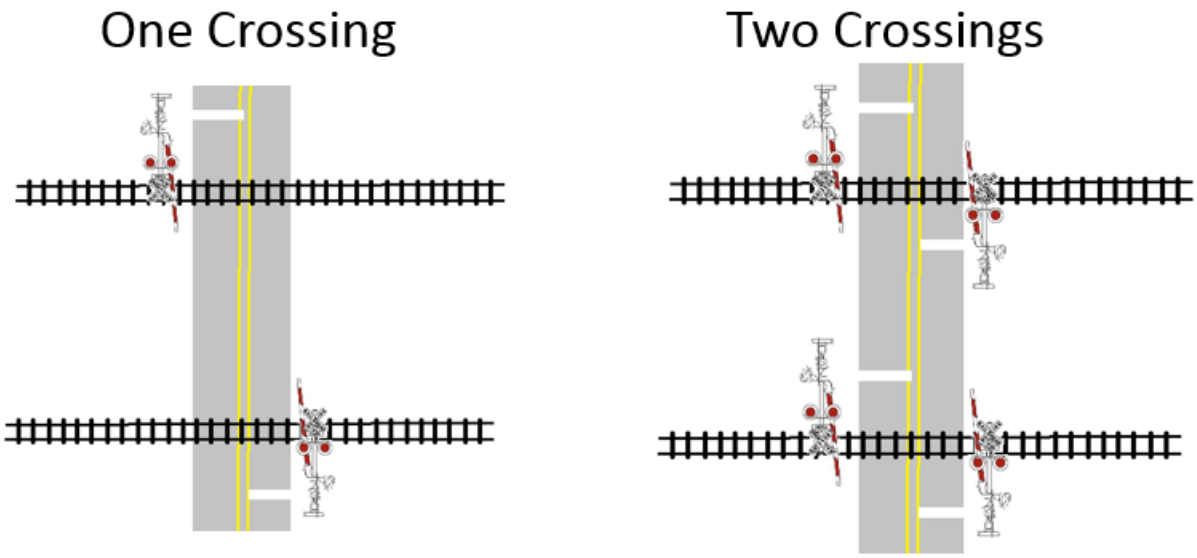
If a transit operator operates on a separate track within a shared-use corridor through one or more highway-rail grade crossings that are shared with a conventional railroad, then the transit operator is required to report its train count data to the Inventory.

However, if a transit operator operates on the same track used by the Primary Operating Railroad, the Primary Operating Railroad is required to report the transit operator's train counts to the Inventory.

One Crossing Versus Two Crossings Close to Each Other

According to the *Guide*, a crossing is considered to be one crossing if multiple tracks have one set of warning devices regardless of the distance between the crossings. Figure 14 shows two examples:

Figure 14: Examples of one and two crossings with parallel tracks close to each other



Closed Crossings

According to 49 CFR § 234.401, a closed crossing is defined as:

> *Closed crossing* means a location where a previous crossing no longer exists because either the railroad tracks have been physically removed, or each pathway or roadway approach to the crossing has been physically removed, leaving behind no intersection of railroad tracks with either a pathway or roadway. A grade-separated highway-rail or pathway crossing that has been physically removed is also considered a closed crossing.

If a railroad stops operating over a crossing, the crossing is still considered open until the rails or roadway have physically been removed. A railroad that stops operating over a crossing should update the Inventory Form and select "No Train Traffic" in the Header if no other railroad operates over the crossing and neither the rails nor roadway have been removed to close the crossing.

Re-Use of Inventory Numbers

According to the *Guide*, once a DOT Number has been assigned to a crossing, it remains with that crossing forever. It cannot be reassigned to another crossing even if the original crossing is closed.

Changing from At-Grade to Grade-Separated

According to the *Guide*, if an at-grade crossing is closed and replaced with a grade-separated crossing, then the at-grade crossing should be reported closed and a new DOT Crossing Number should be assigned to the grade-separated crossing.

Grade Crossing Inventory System

The GCIS is an electronic, web-based application that allows railroads and States to submit information about new crossings and update existing crossing records in the Inventory. According to 49 CFR § 234.403(c), all Class I railroads must use the GCIS to submit and update their crossing data in the Inventory. All other railroads (except for parent railroads that report crossing data on behalf of their subsidiaries) may submit hard copy Inventory Forms or use the GCIS. States may use hard copy Inventory Forms or they may use the GCIS.

Registering for the GCIS

Railroads and States can register for the GCIS at https://safetydata.fra.dot.gov/Gcis/UserManagement/Register.aspx. FRA will approve (or reject) the registration for a railroad or State. After approval, that user will have access to submit new and update existing Inventory records for their railroad or State.

Address to Mail Hard Copy Inventory Forms

If the railroad or State submits hard copy Inventory Forms to FRA through the mail, they should mail them to:

FRA Project Office
4301 North Fairfax Drive, Suite 205
Arlington, VA 22203

Email Address to Send Scanned Hard Copies

Non-Class I railroads or States may email scanned PDF images of the Inventory Form to FRA. If the railroad or State emails PDF images of the Inventory Form, it is still considered a hard copy submission. An electronic submission can only be made through the GCIS.

The email address to send the scanned PDFs is:

RsisRXIUpdates@dot.gov

How Railroads Obtain New Crossing Numbers

If a railroad is reporting new or previously unreported crossings, it should contact FRA to obtain new unused DOT Numbers. It should contact RequestDOTGXNumber@dot.gov and provide the following information:

- Name of person requesting
- Title of person requesting
- Email address of person requesting

- Railroad name
- Railroad mailing address
- Number of new crossing numbers requested

APPENDIX B: Centrally Managed Data-Driven Outreach Recommendations for Grade Crossing Inspectors and Grade Crossing Trespassing Managers

Centrally Managed Data-Driven Outreach Recommendations for Grade Crossing Inspectors and Grade Crossing Trespassing Managers

Objective: Implementing FRA's centrally managed data-driven program to support trespasser prevention activities.

Background: In its report on the Fiscal Year 2018 budget, the U.S. House of Representatives Committee on Appropriations directed FRA to identify and study the causal factors that lead to trespassing incidents on railroad property. The Committee also directed FRA to develop a national strategy to prevent trespasser accidents and to submit that strategy to both the House and Senate Committees on Appropriations by August 1, 2018.[2]

These guidelines respond to the following milestone set forth in the first strategic area of the National Strategy for Trespass Prevention on Railroad Property, "Transition from a regionally managed to a centrally managed data-driven program to support trespasser prevention activities."

FRA headquarters (FRA HQ) is responsible for:

- Providing quarterly reports to each region summarizing railroad trespasser fatalities and injuries;
- Developing a standard operating procedure (SOP) for how to conduct community site visits and reporting and monitoring the effectiveness of any mitigation strategy employed;
- Providing near-miss reports to each region (when data becomes available);
- Using clustering and spatial outliers to develop and customize a trespasser events map showing the location of schools, homeless shelters, and recreation facilities;
- Developing an internal trespass database and website;
- Conducting quarterly conference calls/meetings with grade crossing staff.

FRA HQ will provide quarterly reports to each region that summarize railroad trespassing fatalities and injuries in the region. The reports will provide information about when and where incidents occur, along with near-miss data when available. FRA HQ will develop and customize a trespasser events map using clustering, hot spots, and spatial outliers of the events. It will be possible to locate these events by using values such as "Trespassers within 500 ft. of a

[2] House Report 115-237 (July 21, 2017).

Crossing"; "Trespassers within 1000 ft. of a Crossing"; "Trespassers within 1/2 mile of a Quiet Zone"; "Trespassers within 1 mile of a Public School," etc. These analyses will identify patterns spatially and help to evaluate assumptions about trespasser events. This information will be disseminated to FRA regional offices through FRA GIS Online Viewer, email, or an internal trespassing dashboard. Training will be provided through Technical Training Standards Division (TTSD) and via quarterly conference calls.

FRA HQ will conduct quarterly conference calls or meetings with FRA regional teams to receive feedback on information provided to the team, review incidents, and determine if additional data or outreach methods need to be adjusted.

FRA regional teams are responsible for:

- Directing regional activities to specific areas and hot spots as outlined in the SOP for:
    - Identifying and collaborating with stakeholders;
    - Conducting community assessments and site visits;
    - Facilitating problem-solving trespasser risk discussions and community meetings; and
    - Providing detailed reports to communities, railroads, and FRA HQ;
- Developing a regional initiative directed at railroad trespassing for the National Safety Program Plan; and
- Participating in quarterly conference calls/meetings with HQ staff.

FRA regional teams will use the information supplied by FRA HQ and regional data to direct their activities to specific areas and hot spots. Armed with the data, the teams will identify and collaborate with railroads, city leaders, schools, transit systems, law enforcement, social services agencies, and other stakeholders to determine the underlying cause of railroad trespassing. A general statement to describe the underlying causes and contributing factors of railroad trespassing will be developed for each location (e.g., shortcut to recreation facilities). Based on the underlying causes and contributing factors, the teams will identify resources in the community to address the railroad trespassing issues (e.g., parents, neighborhood groups, community organizations, law enforcement, and railroad safety representatives). FRA regional teams, in collaboration with FRA HQ, will facilitate problem-solving trespasser risk discussions with local stakeholders and meetings with communities and railroad representatives to discuss the issues and develop an action plan. FRA regional teams will document and submit a report of their findings and actions to community leaders and FRA HQ.

When feasible, FRA regional teams will conduct a Trespasser Strike Assessment as outlined in the SOP. This assessment will require FRA regional teams to obtain and track details of trespassing incidents and fatalities. FRA regional teams will identify other measures that could

be taken (e.g., education programs, a physical inspection of area with follow-up recommendations, safety blitzes, etc.).

FRA regional teams will be required to develop a regional initiative directed at railroad trespassing for the National Safety Program Plan.

Implementation

The successful implementation of FRA's centrally managed data-driven program to support trespasser prevention activities depends not only on FRA's actions but also on the availability of resources. FRA implemented the milestones listed in Table 1 to successfully transition to a centrally managed data-driven program to support trespasser prevention activities.

Table 1: Implementation Timeline

Task	Group(s) Responsible	Completion Date
• Develop an internal trespass database/website	HQ	January 2019
• Develop a regional initiative directed at railroad trespassing for the National Safety Performance Plan	HQ/Regional	January 2019
• Develop maps identifying data driven by spatial analysis	HQ	January 2019
• GIS mapping education	HQ/TTSD	January 2019
• Conduct quarterly conference calls/meetings with grade crossing staff	HQ	January 2019
• Develop Trespasser Strike Assessment Form	HQ	June 2019
• Provide quarterly report summarizing railroad trespasser fatalities and injuries	HQ	June 2019
• Provide educational opportunities on railroad trespassing outreach	HQ/Regions	March 2019
• Education on the use of the Community, Analysis, Response, and Evaluation (CARE)	HQ/Regions	March 2019
• Direct regional activities to specific areas and hot spots	Regions	February 2019
• FRA regional teams document and report their findings and activities to FRA HQ	Regions	April 2019

• Conduct trespasser strike assessments	Regions	June 2019
• Provide near-miss reports	Regions	June 2019
• Identify and collaborate with stakeholders	Regions	June 2019
• Facilitate problem-solving trespasser risk assessments and community meetings	Regions	On-Going

APPENDIX C: National Strategy for Trespass Prevention

Federal Railroad Administration

Report to Congress

National Strategy to Prevent Trespassing on Railroad Property

August 2018

Executive Summary

Trespassing on railroad property is the leading cause of all rail-related deaths in the United States. More people are struck and killed by trains each year while trespassing—illegally entering or remaining on a railroad right-of-way—than in motor vehicle collisions with trains at highway-rail grade crossings. Between 2012 and 2017, the annual number of trespass-related pedestrian fatalities increased 18 percent, from 725 in 2012 to 855 in 2017. In calendar year 2018, 181 pedestrian trespass fatalities had occurred by March 31. Data indicates that the number of trespassing occurrences on railroad property each year far exceeds the number of fatalities and injuries. This raises the serious concern of the greater potential for even more trespasser accidents.

In its report on the Fiscal Year 2018 budget, the House of Representatives Committee on Appropriations requested the Federal Railroad Administration (FRA) to identify and study the causal factors that lead to trespassing incidents on railroad property. The House Committee also asked FRA to develop a national strategy to prevent trespasser accidents, and to submit that strategy to the House and Senate Committees on Appropriations by August 1, 2018.[3] This document responds to the House Committee's request.

In October 2017, FRA formed a team of experts to study the problem of people being killed or injured while trespassing on railroad property. To help define the scope of the problem, the team conducted an analysis of the costs of railroad trespass accidents to both railroads and society. They found that the total cost to society of all trespass accidents over the five-year period from 2012 to 2016, was approximately $43.2 billion.[4] The team also reviewed existing research and data relating to railroad trespasser fatalities nationwide, for the four-year period between November 2013 and October 2017. They concluded that of the 3,100 counties and county equivalents in the United States, approximately 14 percent of the fatalities occurred in 10 counties (the "top 10 counties") in four different states. Seventy-four percent of all trespasser casualties during the same period occurred within 1,000 feet (less than ¼ of a mile) of a grade crossing.

Regional FRA teams then conducted field surveys in six of the top 10 counties to gather data related to rail operations and social demographics of the counties, and the circumstances surrounding individual trespass incidents. FRA's research and field surveys identified several causal factors, including the behavior and choices of individuals who trespass on railroad property, and a lack of knowledge of and/or appreciation for the dangers of trespassing. FRA found that communities tend to focus their finite resources on higher-priority law enforcement issues, such as homicides, illegal drugs, and highway crashes. These issues often take precedence over the investigation and prosecution of trespasser offenses. As a result, even when railroad trespass violations are reported to law enforcement, the violations are rarely prosecuted, reducing the perceived negative consequences for trespassing. FRA also found that community planning decisions (such as the location of bus stops in relation to safe crossing paths) might lead to trespassing.

[3] House Report 115-237 (July 21, 2017)
[4] This cost includes the value of fatalities, injuries, and travel time delay due to trespassing incidents.

FRA's efforts to address the problem of people trespassing on railroad property have, in the past, focused on outreach to the public, railroads, and law enforcement agencies. FRA's approach has not been a national, proactive approach to address the root causes of trespassing. Instead, FRA's historical approach has been dependent its regional staff and resources reacting to specific safety issues on a case-by-case basis. FRA's current analysis demonstrates that it needs to do more than educate and facilitate mitigation measures when issues arise.

To this end, FRA has developed the National Strategy for Trespass Prevention on Railroad Property (National Strategy). The strategy focuses on four strategic areas: (1) data gathering and analysis; (2) community site visits; (3) funding; and (4) partnerships with affected stakeholders. The key elements of each of these strategic areas are listed below.

Strategic Area 1. **Data Gathering and Analysis**

- Transition to a data-driven, centrally managed, regionally implemented program.
- Identify new data sources and explore statutory, regulatory, or other authorities to protect new data.
- Develop and use a trespasser risk model.
- Consider changes to railroad reporting regulations to improve the data available to FRA and other stakeholders.

Strategic Area 2. **Community Site Visits**

- Communicate information to FRA regions for targeted engagement.
- Develop standard operating procedures for conducting regional community site visits.
- Assign regional assets to identified hot spots to engage railroads, police, and local governments in partnerships using data to identify location-specific causal factors and assist with identifying and implementing mitigation strategies.

Strategic Area 3. **Funding**

- Work through the executive and Congressional budget cycles to identify funding to strengthen grant programs for trespasser mitigation, such as engineering solutions, law enforcement overtime, school resource officers, or outreach.
- Include information on the availability of grants and other funding as part of FRA's survey and outreach program.

- Work through the Executive and Congressional budget cycles to identify funding for a national trespasser public service announcement campaign.

Strategic Area 4. **Develop Partnerships with Affected Stakeholders**

- Convene trespasser prevention summits with representatives from each of the top 10 counties for trespasser casualties, engaging with local community leaders, law enforcement, railroads, and the public.

- Collaborate with government agencies and other organizations on targeted outreach to address suicides, including the Substance Abuse and Mental Health Services Administration and, internationally, the Global Railway Alliance for Suicide Prevention.

- Share trespasser hot spot data with advocacy organizations to focus activities that will yield the greatest return on investment. Organizations include Operation Lifesaver, Inc.

The success of this national strategy is dependent on several factors outside of FRA's control. To implement this strategy, FRA must gather and analyze railroad trespasser "close-call" data. FRA does not have statutory authority to protect this data from disclosure and use in judicial actions to determine damages or liability for trespasser accidents. FRA believes that railroads will be more likely to share this information openly with this protection in place. With this data, FRA will be more able to fully understand the causes of this complex problem and effectively target trespassing "hot spots." Successful implementation of this national strategy will be best served by sufficient resources and cooperation of all stakeholders.

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Abbreviations in this Report

49 CFR	Title 49 of the Code of Federal Regulations
49 U.S.C.	Title 49 of the United States Code
AIS	Abbreviated Injury Scale
CRISI	Consolidated Rail Infrastructure and Safety Improvements
FRA	Federal Railroad Administration
FY	Fiscal Year
NOFO	Notice of Funding Opportunity
VSL	Value of a Statistical Life

Introduction

Trespassing on railroad property is the leading cause of all rail-related deaths in the United States. Annually, more fatal injuries occur due to trespassing on railroad property than motor vehicle collisions with trains at highway-rail grade crossings. Total trespass-related pedestrian fatalities have increased 18 percent from 725 in 2012 to 855 in 2017. In calendar year 2018, as of March 31, 181 pedestrian trespass fatalities have occurred on railroad property.

In its report on the Fiscal Year (FY) 2018 budget, the House of Representatives Committee on Appropriations asked FRA to study and identify the factors that lead to trespassing incidents on railroad property and to develop a national strategy to prevent these accidents. FRA was asked to submit that strategy to the House and Senate Committees on Appropriations by August 1, 2018. The House Committee directed FRA to include milestones, timelines, and metrics to define success in its strategy. The House Committee expects FRA to implement its trespasser accident prevention strategy within the recommended timelines. This report responds to this mandate and contains the results of FRA's research and field surveys.

FRA's analysis of available data for the period between November 2013 and October 2017 identified the ten counties in the United States where most pedestrian trespasser casualties[5] occurred (the "top 10 counties"). Table 1 below lists those counties in from most to least casualties.

Table 1: U.S. Counties with the Most Railroad Trespasser Casualties, Not Including Suicides November 2013 to October 2017

Rank	County	Casualties	Rank	County	Casualties
1	Los Angeles, California	110	6	Palm Beach, Florida	47
2	Cook (Chicago), Illinois	109	7	Fresno, California	46
3	San Bernardino, California	59	7	Riverside, California	46
4	Harris (Houston), Texas	52	9	Contra Costa, California	44
5	Broward, Florida	51	9	San Diego, California	44

Source: FRA analysis

[5] Casualties include both fatalities and injuries.

Trespassing on Railroad Property

Trespassing Defined

Railroads own their rights-of-way and have a reasonable expectation of operating on their property without the presence or interference of unauthorized people. Any unauthorized person who enters or remains on a railroad right-of-way, railroad equipment, or railroad facilities is trespassing. Trespassing on private railroad property, including a railroad's right-of-way is illegal. Pedestrians and motorists are permitted on railroad property where an authorized crossing (either roadway or pedestrian) intersects with the railroad right-of-way at a grade crossing, provided highway traffic control signals and other signage are obeyed.

FRA distinguishes between trespass accidents and trespass incidents for its national strategy.

Trespass Accidents. When one or more trespassers is struck and killed or injured by a train or other means while on railroad property without authority. In this report, individuals injured or killed because of trespassing on railroad property are "casualties."

Trespass Incidents. When law enforcement, railroad personnel, or a camera observe a trespasser on railroad property. Instances of trespassing in which the trespasser(s) is not struck by a train or otherwise injured or killed on railroad property.

Types of Trespass Accidents

FRA grouped trespass accidents into three categories for analysis and development of its national strategy. The categories are:

Accidents Involving Trespass Casualties at Grade Crossings. This type of trespass casualty occurs when a pedestrian climbs through a train stopped at a grade crossing or climbs over or around gates or other physical barriers to enter a grade crossing when a train is approaching. About 2.1 percent (3,000 miles) of U.S. rail system miles are at grade crossings. FRA data shows 12 percent of total trespassing pedestrian casualties occur at grade crossings. These do not include suicides.

Accidents Involving Trespass Casualties on All Other Segments of Right-of-Way. The remaining 97.9 percent of U.S. route miles (137,000 miles) are the other segments of the railroad right-of-way. Trespassing that result in casualties can occur anywhere along the right-of-way, though the majority or 74 percent occur within 1,000 feet (less than ¼ of a mile) of a grade crossing. These do not include suicides.

Suicides and Suicide Attempts. This type of trespass accident occurs when a person who enter a railroad right-of-way with the intent of being struck and killed by a train are classified as suicides. FRA data indicate that at least 30 percent of all fatalities that occur on the rail system are the result of an intentional act of suicide. Similar to trespass casualties on segments of railroad rights-of-way other than grade crossings, 73 percent of suicide attempts occur within 1,000 feet of a grade crossing. When an accident is classified as a suicide, it is removed from the casualty data.

The Complexities of Trespassing on Railroad Property

Trespassing on railroad property is a complex problem because of the differing priorities of individual trespassers and the communities in which trespassing occurs. FRA's limited authority to address the issue and varying state laws affecting how a railroad or local authority may enforce trespassing laws are compounding factors. For FRA and many affected communities, a lack of sufficient resources and clear data are primary concerns.

Individuals. At its core, the problem of trespassing starts with an individual entering private railroad property without authority to do so. Most trespassers make this choice because crossing railroad property provides the most direct route to a desired destination. The person may be unaware of the dangers involved in trespassing on railroad property. The person can be distracted by another activity (e.g., hunting, bicycling, riding all-terrain vehicles, using cell phones, or using earbuds). These circumstances can lead to tragic consequences.

Communities. From a community's perspective, other law enforcement issues, including homicides, illegal drugs, and highway crashes, can take precedence over investigating and prosecuting railroad trespass offenses. Local and State governments focus their finite resources on their higher-priority issues. Railroad trespassers are often not prosecuted even when their actions have been reported to law enforcement. FRA found that over a four-year period, the number of railroad trespass casualties occurring in each of the top 10 counties accounted for less than 2 percent of the total homicides, drug-related deaths, and highway fatalities in the respective county.

Local land use decisions can affect the likelihood of trespassing on railroad property or railroad rights-of-way. Local community decisions regarding the placement of services near a railroad's right-of-way (such as homeless shelters, food pantries, schools, or other public buildings) or approval of new construction can affect the number of railroad trespassers.

FRA. In 2008, Congress directed the U.S. Department of Transportation to develop and maintain a comprehensive outreach program to address trespassing on railroad property and strengthen relevant enforcement strategies by improving communication among Federal, State, and local entities.[6] FRA's efforts to mitigate trespassing on railroad property have focused on data gathering and sharing and outreach to the public, railroads, and law enforcement. FRA regulations require railroads to report deaths, injuries, and occupational illnesses arising from the operation of a railroad.[7] This reporting requirement includes trespasser casualties; because trespassing on railroad property is a law enforcement issue governed by state and local law, FRA has limited authority to address the issue. FRA does, however, encourage railroads to consider the risks of trespassing accidents as part of their safety planning processes. When providing grants or other funding for new start railroads or to existing railroads, when allowable, FRA conditions the funding on the railroad's consideration of mitigation of identified risks, including the risk of trespassing accidents.

State and Local Law Enforcement. Trespassing on railroad property is a law enforcement issue

[6] 49 U.S.C. § 20151(b).
[7] 49 CFR Part 225.

governed by state and local law. State and local law enforcement administer state trespass laws. Railroads (particularly Class I and commuter railroads) employ railroad police, whose duties typically include investigating incidents of trespassing and confronting trespassers they observe in the act of trespassing. Nationwide, railroads employ more than 1,200 railroad police personnel, whose duties include railroad employee safety, lading protection, theft investigation, and trespasser enforcement. Their status and authority as law enforcement officers varies from state to state, as does their ability to enforce state and local trespass laws.

Differences in state laws can hinder the efforts of state and local law enforcement officers, as well as those of railroad police, by making it difficult for railroads to enforce or legally address trespassing. In some states, a person who trespasses on railroad property could be guilty of a misdemeanor—punishable by a fine and/or imprisonment in state prison or county jail. Other states appear to have carved out a "permissive use" or "frequent trespass" exception to the general rule. Under this exception, if the railroad has permitted the public to travel over its track at a specific location for a considerable period and a sizeable number of people have done so, the railroads could be liable for injuries to trespassers. Some states impose a knowledge requirement—e.g., a person who enters or remains on railroad property without the owner's consent must know that it is railroad property to be guilty of trespassing. In other states, local law enforcement can only address trespassing concerns on private property if their department receives written authorization from the private property owner.

Scope of the Problem

More than 300 million people live in the United States. Approximately 800 railroads operate over 140,000 route miles of track and through 210,093 grade crossings to serve the communities and industries in which the U.S. population lives and works. Railroads operate through diverse geographical areas, including congested urban centers and sparsely populated rural areas. Around major cities, the larger and denser populations result in increased passenger and freight train traffic to support that population. This increased train traffic leads to an increased likelihood of trespassing accidents. In more sparsely populated rural areas, local law enforcement officers and railroad police face challenges monitoring and enforcing trespassing activity along remote stretches of the railroad right-of-way.

On average, each day in the United States there are three people killed or injured while trespassing on railroad property. FRA data show that in 2017, over 1,100 pedestrians were injured or killed trespassing on railroad property.

FRA believes the number of reported trespassing accidents is a small fraction of the actual number of trespassing occurrences each year. One Class I railroad voluntarily shared its data on trespassing "close calls."[8] FRA compared the number of pedestrian trespasser casualties reported by that railroad with the close-call data it provided over the same timeframe[9], and found the number of reported close calls was much larger than the number of casualties reported. This indicates that the potential for additional trespassing casualties is significant.

[8] A trespassing "close call" is a situation in which a trespasser is almost struck by a train, but escapes without injury and the incident is captured by a locomotive camera and/or reported by a train crew.
[9] FRA excluded trespasser casualties deemed to be acts of suicide from these numbers.

In response to the House Committee's request to identify and study the causal factors that lead to trespassing incidents on railroad property, FRA formed a team of experts from its Offices of Railroad Safety and Railroad Policy and Development to study the available data related to trespassing on railroad property. Their work yielded the following information for the 4-year period between November 2013 and October 2017:

- Nationwide, excluding suicides, 4,242 pedestrians were killed or injured while trespassing on railroad property. This number climbs to 5,417 casualties when suicides are included.

- In the top ten counties, excluding suicides, 300 pedestrian trespassers were killed. This number increases to 469 when suicides are included.

- Of the approximately 3,100 counties and county-equivalents in the United States, approximately 14 percent of all trespasser fatalities occurred in 10 counties in four different states.

- The county with the most railroad trespasser casualties during this period was Los Angeles County, California, with 110 casualties, followed by Cook County, Illinois, (Chicago) with 109 casualties.

- Six of the top ten counties for trespasser fatalities were in California and these counties represent 7.9 percent of all nationwide railroad trespasser casualties during the period.

- 74 percent of trespassing casualties occurred within 1,000 feet of a grade crossing.

- 185 trespassing casualties or 5 percent of trespassing casualties, not at grade crossings were the result of slips, trips, and falls while trespassing.

Location of Trespassing Accidents

FRA global information system mapping data shows the locations of all reported pedestrian trespasser accidents, including suspected suicides and attempted suicides occurring since July 2012. Table 2 below shows the percentage of suicide and attempted suicide trespasser accidents and incidents nationwide by distance from a grade crossing from November 2013 to October 2017. The cumulative percentage of casualties by distance from a grade crossing is also listed. Table 3 shows the number of non-suicide trespasser casualties nationwide and in the top 10 counties by distance from a grade crossing for the same period, as well as the cumulative percentage of casualties by distance from a grade crossing. The tables demonstrate that approximately 73 percent of all pedestrian trespassing casualties (including suicides and attempted suicides) occur within 1,000 feet of (less than a quarter mile from) a grade crossing.

Table 2: Location of Suicides and Attempted Suicides, November 2013 to October 2017

Distance from a Highway-Rail Grade Crossing *(feet)*	Percentage of Suicides and Attempts	Cumulative Percentage of Suicides and Attempts
At a grade crossing	11 %	11 %
Within 50	7 %	18 %
50 to 100	6 %	24 %
100 to 200	10 %	34 %
200 to 300	9 %	43 %
300 to 400	7 %	50 %
400 to 500	5 %	55 %
500 to 1,000	18 %	73 %
1,000 to 5,000	24 %	97 %
5,000 to 10,000	2 %	99 %
More than 10,000	1 %	100 %

Source: FRA analysis

Table 3: Locations of Pedestrian Trespasser Casualties,* November 2013 to October 2017

Distance from a Highway-Rail Grade Crossing *(feet)*	Casualties Nationwide		Casualties in Top 10 Counties	
	Cumulative Number	Cumulative Percentage	Cumulative Number	Cumulative Percentage
At a grade crossing	516	12 %	102	18 %
Within 50	853	20 %	27	23 %
50 to 100	1,116	26 %	29	28 %
100 to 200	1,608	38 %	56	38 %
200 to 300	1,973	46 %	49	47 %
300 to 400	2,232	53 %	42	55 %
400 to 500	2,462	58 %	31	60 %
500 to 600	2,658	63 %	20	64 %
600 to 700	2,798	66 %	21	67 %
700 to 800	2,945	69 %	16	70 %
800 to 900	3,049	72 %	10	72 %
900 to 1,000	3,142	74 %	12	74 %
1,000 to 1,250	3,328	78 %	25	79 %
1,250 to 1,500	3,477	82 %	21	82 %
1,500 to 2,000	3,711	87 %	30	88 %
2,000 to 3,000	3,950	93 %	21	92 %

3,000 to 5,000	4,107	97 %	24	96 %
5,000 to 10,000	4,186	99 %	12	98 %
More than 10,000	4,242	100 %	11	100 %
Total Casualties	**4,242**		**559**	

* Deaths and injuries, excluding suicides.

FRA Efforts to Address Trespassing

FRA has worked extensively with railroads, state, county, local governments, and other organizations to raise awareness about the inherent dangers and consequences of trespassing. The paragraphs below describe some of the work FRA has done to date to address the issue of trespassing on railroad property. FRA's trespass prevention website[10] contains links to many of the research and other documents referenced below.

Research. FRA research examines all aspects of trespass prevention with a focus on engineering, education, and enforcement. FRA researches new technology prototypes, systems, and components, as well as education and enforcement initiatives that have the potential to decrease or eliminate railroad trespassing. FRA research includes the demonstration and evaluation of new technologies and innovative safety treatments and technology transfer initiatives from other modes of transportation (e.g., use of artificial intelligence). These studies enable FRA to develop effective methods that, combined with local efforts, reduce railroad trespassing. In July 2018, FRA published a report intended to provide a baseline measure of trespassing and suicide incident data from 2012 to 2014.[11]

Data Analysis. FRA conducted national studies of demographic and market analysis of rail trespass fatalities in 2008 and a follow up study in 2013.[12] The objective was to establish a foundation to build an outreach or public education program and assist law enforcement to identify demographic populations most at risk. Results indicated that trespassers involved in fatal accidents are typically identifiable as white males, with an average age of 38 and with low socioeconomic status. These studies led FRA to conclude that many in this demographic may be intoxicated at the time of trespassing.

Community, Analysis, Response, and Evaluation Rail Trespass Problem-Solving Model. FRA, in collaboration with Transport Canada, developed and published the *Community Trespass Prevention Guide* (Guide) in 2003. This guide details a collaborative, systematic problem-solving approach for communities. Called the Community Analysis, Response, and Evaluation rail trespass problem-solving model, the guide presents a non-regulatory approach to addressing railroad trespassing in local communities.

Collaboration with National Organizations. FRA promotes trespass prevention programs through cooperative efforts with public and private entities to encourage enforcement, educational, and engineering activities that effectively reduce trespass incidents and associated casualties. FRA collaborates with national organizations, such as Operation Lifesaver, Inc., for public outreach and education activities to increase awareness of the dangers of railroad trespassing. FRA has provided $1 million through a grant to Operation Lifesaver, Inc., annually, which includes public outreach and education activities to increase awareness of the dangers of railroad trespassing.

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[10] https://www.fra.dot.gov/Page/P0846.
[11] FRA, *Characteristics of Trespassing Incidents in the United States (2012-2014)*. Available at https://www.fra.dot.gov/eLib/Details/L19581.
[12] https://www.fra.dot.gov/eLib/details/L04702.

National Workshops. FRA hosted three workshops (in 2008, 2012, and 2015) to provide stakeholders with updates on right-of-way fatality and trespass prevention activities and to solicit the workshop attendees' ideas on future actions and research priorities. The groups generated more than 80 ideas ranging from expanded initiatives to new research projects. Each group put forward four to five recommended actions. These recommendations included increased signage, use of unmanned aerial vehicles, model state laws, and enforcement grants.

Law Enforcement Outreach. Through local efforts and feedback from the right-of-way conferences, FRA learned that law enforcement needed a reference guide that contains a state-by-state listing of trespassing laws. FRA put together a reference document, *Compilation of State Laws and Regulations Affecting Highway-Rail Grade Crossings*, issued in 2013. FRA made this reference guide available as a mobile application that is downloadable to any handheld device.[13]

The Costs and Effects of Railroad Trespassing

Trespassing accidents resulting in fatalities or injuries negatively affect both the injured trespasser and his or her family. These accidents also result in emotional distress of involved railroad personnel and emergency first responders. One railroad told FRA that even the most experienced engineers are often affected by trespasser accidents to the extent that they are unable to continue to work. Trespassing accidents result in delays that negatively affect the railroad's ability to move passengers and goods in support of our Nation's economy.

The cost and effects of trespass accidents to railroad operations is significant. One Class I railroad told FRA that each event where a train strikes a trespasser costs the railroad an average of $900 per minute. This Class I railroad also told FRA that it takes an average of four hours to conduct the initial investigation and restore traffic flow, resulting in an average direct cost to the involved railroad of $216,000 per accident, plus the costs of lost time and productivity of those involved with delays caused by the accident. According to FRA's risk analysis, the economic benefits of reducing trespassing accidents can be measured in lives saved, injuries reduced, and a reduction in train delays.

The benefit of preventing an injury or fatality is measured by the value of a statistical life (VSL). The VSL is the additional cost society is willing to bear for improvements in safety that reduces the expected number of fatalities by one. The Department currently sets VSL at $9.6 million.[14] In addition, in cases of injury, a value is assigned based on a fraction of the VSL, using the abbreviated injury scale (AIS). AIS categorizes injuries into levels of severity, ranging from AIS 1 (minor) to AIS 5 (critical) and assigns a dollar value to each category of injury.

FRA conducted its risk analysis using data reported over a five-year period from 2012 to 2016. During that period, 9,363 trespassing accidents were reported to FRA (including 4,291 fatalities and 5,072 injuries). FRA calculated the total value of these accidents using VSL, AIS, and the value of travel timesaving.

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[13] https://www.fra.dot.gov/StateLaws.

[14] *See* "2016 Revised Value of a Statistical Life Guidance.pdf" at https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis.

Fatalities. The 4,291 reported trespasser fatalities equate to a total value of fatalities over the five-year period of just under $41.2 billion.

Injuries. The 5,072 reported trespassing accidents resulting in injuries equate to a total value of injuries over the five-year period of approximately $2.0 billion.[15]
Travel Time Delay. When a trespassing accident occurs, the train is required to stop at the accident site. During this time, local law enforcement conducts an initial review of the accident. Emergency personnel might be required to assist passengers and the trespasser. During this time, passengers might be waiting on the train. FRA estimated the value of this time based on each person on the train. The following assumptions were used to estimate the value of a reduction in train delay, if all expected trespass accidents were avoided:

1. The average train delay per accident is 4 hours.[16]

2. The value for each passenger's time on the train is $20.40 per hour.[17]

3. The number of passengers per train is 200.[18]

4. The average value of delay for freight goods is $637.26 per hour per train.[19]

5. The wage rate of a conductor or engineer is $31.57 per hour.[20]

FRA then calculated the cost of passenger and freight delay for each train accident. Using the assumptions above, the total value of freight train delays over the 5-year period is $21,918,195.[21] The total value of passenger train delays over the 5-year period is $34,110,629.[22]

FRA calculated the total cost to society of the 9,363 trespasser accidents and resulting casualties over the five-year period to be $43.2 billion, meaning that the average cost of each accident is $4.6 million (including the costs of casualties, deaths, and train delay). Notably, these figures do not include unquantified costs to the Nation's economy (e.g., the loss of productivity of motorists and their passengers delayed at highway-rail grade crossings while a trespassing accident is investigated or the cost of delay to truck freight that may be delayed at highway-rail grade crossings during a trespasser accident response). These figures also do not include unquantified costs associated with the lasting impacts railroad crew members often experience as a result of being involved in a trespasser accident. As noted above, one railroad reported to FRA that even

[15] FRA used National Automotive Sampling System values to assign a monetary value to each individual injury type.
[16] Source: FRA Highway-Rail Grade Crossing and Trespass Prevention Division
[17] *See* "2016 Revised Value of Travel Time Guidance.pdf" at https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-valuation-travel-time-economic.
[18] Source: FRA Passenger Rail Division
[19] National Cooperative Highway Research Program, *Comprehensive Costs of Highway-Rail Grade Crossing Crashes*, Report 755.
[20] Source: Surface Transportation Board, 2016. https://www.stb.gov/econdata.nsf/WageStatistics?OpenView.
[21] 7,328 freight incidents * [($637.26 value of goods per hour * 4 hours) + ($31.57 * 1.75 burdened wages * 2 employees per train * 4 hours per delay)].
[22] 2,035 passenger incidents * [($31.57 train employee wage rate * 1.75 burdened wages * 2 employees per train * 4 hours per delay) + (200 passengers per train * $20.40 per passenger per hour * 4 hours per delay)].

the most experienced engineers are often affected by trespasser accidents to the extent that they are unable to continue to work. This often forces the railroad to replace those experienced engineers with less experienced individuals, not only increasing labor and training costs, but potentially adversely impacting safety as those experienced more engineers leave the workforce. The cost of train delays includes the wages of the train crew of the involved train, but does not include the costs of delays to other trains that must be held until the accident is cleared.

FRA's Field Survey - Site Review Team Executive Summaries

Based on the data and analysis described above, FRA deployed four trespasser site review teams to six counties in California, Illinois, Texas, and Florida. The teams were composed of FRA regional grade crossing inspectors and went to 6 of the top 10 counties nationwide for trespasser casualties. Each team had maps, tools, and data and reported on the number of trains passing per day through the area; the number of trespass violations local authorities and railroad police submitted and prosecuted; how much time law enforcement dedicated to addressing the issue of trespassing on railroad property; and the locations where trespassing was occurring. The teams also identified how close trespassing locations were to homeless communities and shelters, food pantries, and schools. They identified examples of potential poor community planning (e.g., parking lots intended for a building on the opposite side of the track from the building), and where prevention and engineering controls, such as fences, had been installed. Finally, the teams interviewed trespassers to find out why they were trespassing, if they knew they were trespassing, if they knew trespassing was illegal, and to explain the dangers of trespassing. The teams gathered data for the period November 2013 to October 2017.

In summary, the site review teams found that trespassers were often making conscious decisions to trespass as a matter of convenience and generally reported that they knew they were illegally trespassing. In one instance, FRA personnel observed schoolchildren and a school official trespassing on a railroad's right-of-way. The site review teams also found that some locations lacked fencing or other physical barriers to the railroad's right-of-way, while other locations had fences that did not effectively deter trespassers. In one instance, trespassers regularly climbed or crawled through the cars of stopped trains to get to the other side of the tracks. Tables 4 – 7 below highlight, by state and county, each team's findings.

Table 4: California Counties Reviewed by FRA Region 7 Grade Crossing Inspectors

County	Rank for Number of Casualties	Number of Casualties
Los Angeles	1	110
Riverside	7	46
San Diego	9	44
Contributing Factors		
Trespassing for convenience.		
Lack of deterrence, such as fencing, enforcement, or education.		
Considerations for Mitigation		
Trespassers interviewed said they knew they were illegally trespassing.		
Railroad management reported frustration with ineffective education and enforcement efforts and stated that the next step is to explore the use of engineering solutions.		
Railroads are using a tracking process to report homeless encampments on railroad rights-of-way for targeted enforcement actions.		

Table 5: Illinois County Reviewed by FRA Region 4 Grade Crossing Inspectors

County Name	Rank for Number of Casualties	Number of Casualties
Cook (focused on Chicago)	2	109
Contributing Factors		
Of 1,081 railroad trespasser violations, 435 (40 percent) were not prosecuted; 1,034 (almost 96 percent) were filed by railroad police.		
County or city police departments issued less than 50 trespasser violations.		
Chicago Police stated that less than 1 percent of their calls are directly related to railroad trespassing, and they divert those calls to railroad police.		
Considerations for Mitigation		
A significant number of trespasser fatalities occurred near homeless shelters, schools, and food pantries.		
Most track is railroad over grade (elevated track).		
Fencing was already installed at all locations visited; the assumption is that trespassers are climbing fences.		

Table 6: Texas County Reviewed by FRA Region 5 Grade Crossing Inspectors

County Name	Rank in Number of Casualties	Number of Casualties
Harris (focused on Houston)	4	52
Contributing Factors		
Of 228 trespassing violations issued October 2013-November 2017, 1 was prosecuted.		
Trespassers regularly climb or crawl through the cars of stopped trains rather than wait or walk around.		
Considerations for Mitigation		
City of Houston officials advocated for Federal funding for cameras.		
High levels of trespassing near shelters and food banks.		

Table 7: Florida County Reviewed by FRA Region 3 Grade Crossing Inspectors

County Name	Rank in Number of Casualties	Number of Casualties
Palm Beach County	6	47
Contributing Factors		
Trespass occurs for convenience allowing the pedestrian a most direct path to their desired location.		
Lack of grade crossings in large sections of track contributes to trespassing for convenience.		
Mid-block public bus stops between crossings were a contributing factor to trespass.		
Multiple groups of schoolchildren and a vice-principal were observed trespassing upon school dismissal.		
Considerations for Mitigation		
Trespassers interviewed admitted they knew they were illegally trespassing.		
Moving public bus stops closer to grade crossings could be a viable mitigation strategy.		
Location-specific mitigations (physical barriers) to create more resistance, and in others, a need to provide a safer path of least resistance.		
A more comprehensive and focused survey should be performed to identify specific areas and effective methods of mitigation. This survey should be guided by the railroads, and should include state/local officials, state/local police departments, state/county school boards, and county/city transportation boards.		

Potential Causal Factors

FRA's analysis and field survey of previous research identified two primary factors that contributed to trespassing incidents on railroad property. First, trespassing starts with an individual choosing to enter or remain on railroad property without authority to do so. Most trespassers made this choice because crossing railroad property provides the most direct route to a desired destination. FRA's survey teams found that trespassers often knew they were illegally on railroad property. Trespassers often do not have a sufficient understanding or appreciation for the dangers of trespassing on railroad property.

Individual Contributing Factors:

a) Personal convenience.

b) Lack of knowledge of or appreciation for the dangers of trespassing.

Second, from a community or local government's perspective, other law enforcement and public safety issues (e.g., homicides, illegal drugs, and highway fatalities) are often the focus of their resources. In the top 10 counties, the number of trespass fatalities accounted for less than 2 percent of the total homicides, drug related deaths, and highway fatalities in each respective county. As a result, many communities prioritized their resources in ways that limit their ability to address railroad trespassing issues either through engineering solutions or effective public outreach and education. FRA's field survey confirms that railroad trespassers are rarely prosecuted, thereby reducing the perceived negative consequences of trespassing. Finally, community decisions, such as putting bus stops too far from safe crossing paths, may contribute to an increased number of trespassers.

Community Contributing Factors:

a) No (or insufficient) dedicated resources (personnel or funding).

b) Lack of physical deterrents, such as fences, natural or engineered barriers, or obstacles.

c) Failure to prosecute trespassers by local judicial process.

d) Public perception of the dangers of trespassing on railroad property.

e) Poor community planning.

Conclusion

FRA's approach to the trespassing issue has not been a national, proactive approach, but rather a program of national outreach and education. Regional FRA staff and resources react to specific trespasser issues on a case-by-case basis. FRA's efforts have focused on data gathering, sharing, and outreach to the public, railroads, and law enforcement. FRA has considered specific trespassing problems as local problems. Regional FRA safety personnel assisting local authorities and communities are the best way to address these issues. Regional FRA safety staff would work with these communities and railroads to facilitate solutions to specific, local trespasser issues.

FRA's current analysis demonstrates that it needs to do more than educate and facilitate mitigation when issues arise. Proactive use of current, relevant data and analysis to identify systematically high-risk areas for trespassing incidents is the best way to develop and facilitate implementation of specific mitigation strategies for communities, local governments, law enforcement, and impacted railroads. Education and outreach are not enough. Engineering solutions (e.g., fencing, automated video detection systems) designed to prevent or discourage trespassing on railroad property, can be utilized in conjunction with frequent and consistent enforcement of trespasser laws. FRA has developed the following national strategy, focusing on four strategic areas: (1) data gathering and analysis; (2) community site visits; (3) funding, and (4) partnerships with affected stakeholders.

The success of this national strategy depends on several factors outside of FRA's control. FRA's ability to gather and analyze railroad trespasser close-call data is the cornerstone of this strategy. Railroads have been reluctant to share this information, because FRA does not have express statutory authority to protect this data from disclosure and use in judicial or other actions to determine damages or liability for trespasser accidents. Without this data, FRA will be unable to fully understand this complex problem and proactively target trespassing hot spots. Trespassing is generally a matter of state and local law and enforced at each state and municipality's discretion. Higher-priority law enforcement and other issues compete for the resources of local governments to address trespassing on railroad property. Successful implementation of this strategy will depend on the availability of sufficient resources and all stakeholders working together.

National Strategy to Prevent Trespassing on Railroad Property

FRA's national strategy to prevent trespassing on railroad property includes four strategic focus areas: data gathering and analysis, community site visits, partnerships with stakeholders, and funding. None of these focus areas alone is sufficient for preventing trespassing and a successful strategy must include a combination of approaches. Focusing on data gathering and analysis will enable FRA to target its resources to trespassing hot spots. Conducting community site visits will help FRA and other stakeholders build a pool of successful mitigation strategies. Requesting and providing funding will assist communities directly in securing solutions and resources they need to deter trespassing and build partnerships with communities, law enforcement, railroads, and other organizations in addressing the trespassing problem. FRA will be able to leverage available resources, expertise, and local knowledge to combat the problem of trespassing.

Implementation of this strategy will transition FRA's trespasser prevention program from regionally managed reactive efforts, to a centrally managed, data-driven program designed to evaluate the risks of trespasser incidents throughout the Nation's rail network. It will also help FRA work with communities and local law enforcement to identify and facilitate implementation of effective mitigation strategies.

The strength of this approach is demonstrated by the following examples, identified when FRA developed this strategy.

One Central Problem. FRA survey teams identified convenience as the most consistent problem across surveyed areas– trespassers simply take the most direct route to their desired destinations as main cause of trespassing, regardless of geographic location.

Three Local Solutions. FRA teams visited three communities that data demonstrated were hot spots for trespasser activity. FRA personnel observed trespassers cross railroad property to travel from a bus stop to a residential neighborhood in West Palm Beach, Florida. If the bus stop was closer to an authorized, safer crossing, this could eliminate the current path of convenience. FRA personnel observed trespassers cross railroad property from a homeless encampment into town near Riverside, California. In this case, solutions might include physical barriers, enhanced law enforcement presence, or relocating the homeless population to another location where the danger is not as great. In Oceanside, California, FRA personnel observed trespassers cross railroad property to travel from a residential neighborhood to the beach. Since neither the neighborhood nor the beach is a candidate for relocation, possible solutions to this problem might be physical barriers and additional enforcement.

FRA's initial focus on gathering and analyzing appropriate data to identify trespassing hot spots led the agency to send teams to conduct site visits. FRA identified mitigation strategies based on the specific local circumstances. FRA's next step is to engage with local partners at each location to examine the feasibility of implementing appropriate mitigation measures.

The Four Strategic Areas of the National Strategy

Strategic Area 1. Data Gathering and Analysis. FRA's strategy will be driven by reliable data. FRA will seek ways to improve the integration and presentation of this data into a more thorough picture of the trespass issue. FRA identified the 10 counties in the United States with the highest number of railroad trespassing casualties, yet FRA is missing a key piece of data that will enable it to identify geographical areas for the highest risk of trespassing incidents in the future.

FRA may not receive data related to trespassing incidents that do not result in death or injuries. A trespasser close-call (or sometimes referred to as a "near-hit") is a situation in which a trespasser is almost struck by a train, but escapes without injury and the incident is captured by a locomotive camera or reported by a train crew. This data is critical to identify the areas that are at high risk of trespasser accidents due to the number of trespasser close calls that occur in the area.

Obtaining close-call trespasser incident data is essential to successful implementation of any data-based proactive approach to addressing the trespasser issue. Close-call data would enable FRA to better identify trespasser hot spots and could be particularly beneficial in deploying law enforcement and railroad police more efficiently and determining what, if any, engineering solutions may be feasible in particular circumstances. Thorough analysis of close-call data would allow FRA to direct our resources to areas of highest value and to share risk information with our partners.

Many railroads already collect trespasser close-call data for their own use. Railroads have not been willing to share this information with FRA without express statutory authority to protect the data from disclosure and use in judicial or other actions to determine damages or liability for trespasser accidents or incidents. However, Federal law does not prohibit the use of this data as evidence in Federal or State court proceedings or other actions for damages or to determine liability for trespasser accidents or incidents. Other modes, such as the Federal Highway Administration under 23 U.S.C. § 409, have statutory authority to protect disclosure of data gathered for highway safety projects.

Strategic Area 2. Community Site Visits. FRA will send teams to conduct site visits in communities with high numbers of trespass incidents. These teams will learn more about the specific local causes that contribute to trespassing and will work with local partners to help them implement and evaluate the effectiveness of targeted mitigation strategies. We believe the successful curtailment of trespassing in these areas will contribute to a strong pool of successful strategies for use in other communities. FRA will use this data to develop a Trespass Risk Model to identify the current and future risk of rail trespassing for communities across the country.

Strategic Area 3. Funding. Funding is necessary to enable local communities to implement targeted trespasser mitigation strategies, such as engineering solutions, law enforcement overtime, school resource officers, or community outreach. Funding is an important part of the direct and tangible support necessary for communities to help them achieve a reduction in trespassing incidents. In February 2018, FRA published a Notice of Funding Opportunity (NOFO) for a law enforcement pilot grant program aimed at evaluating the effectiveness of

funding local law enforcement activities intended to reduce trespassing on railroads.[23] FRA received final applications for this pilot grant program in April 2018. This $150,000 grant opportunity was open to state, county, municipal, local, and regional law enforcement agencies in communities with a demonstrated rail trespass problem. The grants will be awarded in the fall of 2018, and the programs will be evaluated over a six-month period of performance. Certain trespassing prevention projects could be eligible for funding under the Consolidated Rail Infrastructure and Safety Improvements (CRISI) grant program, the Restoration and Enhancement grants program, or the Federal State Partnership for State of Good Repair grant program. FRA will work to increase stakeholder awareness of these and other funding opportunities. A wide range of projects are eligible for these grant programs including grade crossing improvements and potential engineering solutions targeting trespassing (e.g., barriers). Congress provided approximately $960 million in FYs 2017 and 2018 for these grants, with certain set-asides for authorized priorities. FRA is evaluating applications for the $68 million FY 2017 CRISI program that closed on June 21, 2018, and has made additional FY 2018 CRISI grant program funding available. FRA encourages potential applicants to contact FRA for technical assistance with respect to proposed trespass prevention projects, before preparing a grant application for any of the above programs, given the variation in program requirements.

Strategic Area 4. Partnerships. FRA will continue to work with communities, local governments, law enforcement agencies, railroads, and any other interested parties to combat the problem of trespassing. To maximize our reach and effectiveness, FRA will work with organizations whose goals align with our own, collaborating/breaking down silos to share knowledge and data, thematic with the Department's priorities on safety. This includes sharing information and meeting directly with leadership from groups such as Operation Lifesaver, Inc. to raise awareness in hot spot communities; the Global Rail Alliance for Suicide Prevention to share strategies to deter suicides by rail; the Substance Abuse and Mental Health Services Administration to reduce the number of suicides; International Association of Chiefs of Police to share ideas with law enforcement; the National Organization of Youth Safety to find ways to reach our younger population more effectively; and community groups and leaders who have an in-depth knowledge of their local problem areas.

Through regular contacts on safety matters, Transport Canada, the Department's counterpart agency, is considering options for addressing the railroad trespasser issue in Canada. Transport Canada is developing a document addressing the history of the trespassing issue, access controls, and policy options for consideration. FRA reviewed Transport Canada's draft document, shared a draft of this report with Transport Canada, and held a teleconference to discuss both documents. Transport Canada's findings are similar to the findings in this report and FRA intends to continue collaborating with Transport Canada to share ideas and additional discoveries to create a stronger strategy for both agencies.

Metrics for Success

The success of this national strategy depends not only on FRA's actions, but also on the resources and actions of other stakeholders. FRA will measure the success of this national strategy by the relative levels of stakeholder engagement on the issue and implementation of

[23] 83 FR, 7842 (Feb. 22, 2018).

specific mitigation strategies demonstrating a reduction in the number of trespasser accidents at identified hot spots. FRA will also measure the success of this national strategy by the overall nationwide change in the number of trespassing accidents.

Implementation Milestones and Timeline by Strategic Area

FRA expects to implement the national strategy, subject to the availability of resources, according to the following milestones in Table 8.

Table 8. Implementation Milestones and Timeline by Strategic Area

Milestone	Timeline
Strategic Area 1. Data Gathering and Analysis	
1. Transition from a regionally managed to a centrally managed data-driven program to support trespasser prevention activities.	Complete by January 2019
2. Identify, through independent analysis and collaboration with railroads and other stakeholders, known and new data sources that could better identify trespasser hot spots or risk factors that lead to trespassing.	Start by January 2019
3. Explore statutory, regulatory, or other authorities to protect railroad near-hit and close-call data from disclosure.	Start in FY 2019
4. Identify, through collaboration with railroads as appropriate, existing and potential new analytical tools (including risk models) to effectively analyze trespasser data.	Start by January 2019
5. Develop an FRA trespass risk model to identify current and future risk of rail trespassing in communities across the country (identify hot spots).	Complete by December 2019
6. Use developed risk model to perform initial risk assessments on identified hot spots.	Complete by January 2020
7. Consider changes to accident and incident reporting regulations to improve rail trespasser data. Propose rule, if changes justified.	Complete by FY 2020
Strategic Area 2. Community Site Visits	
8. Develop system of communicating currently available data to FRA regions for targeted local grade crossing and trespasser prevention program inspector and specialist actions.	Complete by March 2019
9. Develop standard operating practices and procedures for FRA community site visits, reporting, and monitoring effectiveness of any mitigation strategy employed.	Complete by June 2019
10. Assign regional assets to identified hot spots and arm them with data necessary to engage railroads, police, and local governments in partnerships to identify location specific causal factors and assist with identifying and implementing mitigation strategies.	Begin implementing July 2019

Table 8. Implementation Milestones and Timeline by Strategic Area

Milestone	Timeline
Strategic Area 3. Funding	
11. Work through the Executive and Congressional budget cycles and reauthorization process to identify funds to strengthen grant programs that provide funding for trespasser mitigation, such as engineering solutions, law enforcement overtime, school resource officers, or outreach.	Begin during FY 2019
12. Work through the Executive and Congressional budget cycles to identify funds for a national trespasser public service announcement campaign. Develop a series of announcements for distribution in targeted areas with high number of trespassing accidents.	Begin during FY 2019
13. Work through the Executive and Congressional budget cycles to identify funds to enable advocacy organizations to develop focused surveys of communities where trespasser incidents have been a persistent problem. Additional funding will be used to develop forms to collect information from the surveys, establish a database, and prepare reports for the communities and FRA.	Begin during FY 2019
14. Provide information on availability and process for applying for various forms of FRA grants and other funding (e.g., law enforcement and CRISI grants) during focused surveys and outreach.	When funding becomes available
Strategic Area 4. Partnerships	
15. Develop system of sharing trespasser hot spot data with advocacy organizations to focus their activities where they will yield the greatest return on investment and establish communication and reporting procedures to share information and provide feedback on effectiveness of efforts.	Complete by April 2019
16. Collaborate and partner with government agencies, such as the Substance Abuse and Mental Health Services Administration, to develop and implement targeted outreach to address suicides by train. As appropriate, collaborate with international organizations, such as the Global Rail Alliance for Suicide Prevention, to share ideas on effective strategies to deter suicides by rail.	Complete by December 2020
17. Partner with law enforcement and other organizations (e.g., the International Association of Chiefs of Police, the National Organization of Youth Safety) to collaborate on effective trespass prevention and mitigation measures (e.g., the enforcement of trespass laws, methods to raise awareness and reach a younger population to more effectively prevent trespassing).	January 2019 – December 2019

Table 8. Implementation Milestones and Timeline by Strategic Area

Milestone	Timeline
18. Partner with the leaders of local communities to improve trespass prevention. Initially, FRA will communicate directly with the leadership of counties identified as having the highest number of railroad trespasser casualties.	Start by July 2019
19. Host trespasser prevention summits in each of the top 10 counties. Summits will include local community leaders, law enforcement, railroads, and the public.	Complete by July 2020
20. Assist other agencies and organizations in developing and targeting trespasser prevention outreach campaigns to localities identified as trespassing hot spots.	Complete by July 2020