

OHIO

RAILROAD SAFETY IMPROVEMENT PLAN

FY 2011

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MISSION OR GOAL STATEMENT

The overall goal of the State is to:

- (1) Reduce the number and rate of crashes, incidents, injuries, and fatalities involving trains;
- (2) Improve the consistency and effectiveness of enforcement and compliance programs;
- (3) Improve the identification of high-risk highway-rail grade crossings;
- (4) Strengthen enforcement and other methods to increase grade crossing safety;
- (5) Prevent railroad trespasser accidents, incidents, injuries, and fatalities; and;
- (6) Improve the safety of railroad bridges, tunnels, and related infrastructure to prevent accidents, incidents, injuries, and fatalities caused by catastrophic failures and other bridge and tunnel failures.

EXECUTIVE SUMMARY

Program Evaluation Summary:

Ohio is a crossroads state with an extensive transportation infrastructure that features a dense network of railroads. There are over 5,318 miles of active mainline rail in the state as well as 121,241 miles of roadway. Consequently, there are a large number of public crossings. As of 2010 there were approximately 5,900 public crossing of which 53% (3,127) have lights and gates, 35% (2,065) have passive systems such as crossbucks and 12% (708) have flashing lights. The number of crossings with gates and lights has continued to increase every year while at the same time the total number of crossing has decreased. In addition, the state also features approximately 2,257 grade separations.

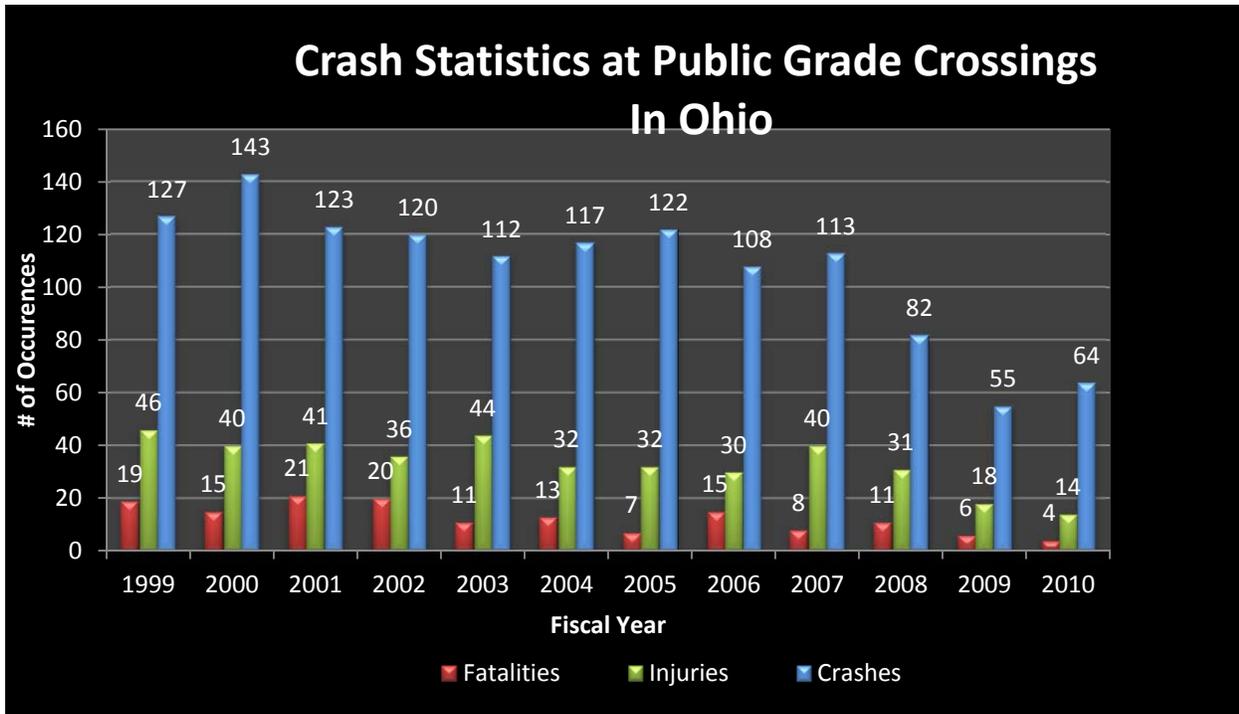
Item	2010	2009	2008	2007	2006	2005
Crossings	5,900	6,000	6,100	6,100	6,100	6,100
Lights/Gates	53%	51%	50%	49%	48%	47%
Crossbucks	35%	36%	37%	38%	38%	39%
Flashers	12%	13%	13%	13%	14%	14%

In addition to the physical infrastructure in the state, Ohio ranks 6th in the nation with 36 freight railroad companies operating in the state. This equates to Ohio ranking 3rd in the nation with 5,318 rail miles, including two Class 1 Railroads and one Regional Railroad. Rail carriers also transport a wide variety of items including everything from passengers to raw materials and finished products. Because of its location relative to the rest of the nation, a number of major North/South and East/West rail lines run through the state which substantially increases the number of rail cars that pass through the state on a daily basis. The facts below further substantiate the large volume of rail traffic and illustrate the importance of Ohio’s rail network:

- 4th in the Nation for Rail Tons Terminated by State (86,564,754 rail tons)
- 5th in the Nation for Rail Carloads Terminated by State (1,239,642 carloads terminated)
- 5th in the Nation in Freight Rail Employment (7,825 employees)
- 6th in the Nation for Rail Carloads Originated by State (1,060,385 carloads originated)
- 8th in the Nation for Rail tons Originated by State (61,522,546 rail tons)

Program Effectiveness

The crashes occurring at public grade crossings in Ohio have shown a steady decline and leveling off since the early 1970s. The table below summarizes that progression. The state experienced a reduction in total crashes for 2010 which was 33% below the previous year. It is also important to note that crashes at locations with active warning devices (lights and gates or flashing lights only) accounted for 70% of all crashes occurring in 2010



Data does not include suicide or trespasser incidents

Statistics for 2010 show a total of 64 crashes with 4 fatalities and 14 injuries with 70% of the crashes coming from locations with active warning devices.

Based upon the high volume of rail traffic, roadway users and rail grade crossings, the opportunity for crashes in Ohio is higher than in most other states. However, at the same time, the trend in the state has been a marked decrease in crashes over the last ten years. It is clear that the programs being managed by the State are producing results and that grade crossing safety in the state has, and is continuing to, improved.

PROGRAM DESCRIPTION

Overall Program Structure

The State of Ohio has a vibrant railroad safety program with two principle agencies responsible for administering both enforcement and improvement programs. The Public Utility Commission of Ohio (PUCO) serves as the regulatory body in charge of overseeing Ohio's railroads. It accomplishes this through a combination of regulatory enforcement, inspections, and grant programs. The Ohio Rail Development Commission (ORDC) administers federal funds on behalf of the Ohio Department of Transportation (ODOT) that are utilized for railroad safety improvement projects.

PUCO Program Overview

Railroad Inspections

The PUCO employs 13 railroad inspectors that monitor grade crossings, inspect railroad tracks and equipment, investigate all grade crossing incidents, and administer Ohio's grade crossing database. All Ohio inspectors have been certified by the Federal Railroad Administration (FRA) and represent each of the five inspection disciplines. These inspectors annually conduct over 5,900 grade crossing inspections. In addition to their standard inspection work, these individuals also respond to the concerns of the public such as complaints of rough crossings, excessive noise, bridge debris and overgrown weed and vegetation that can obstruct sight at railroad crossings as well as investigate crashes/derailments and assist in the review and approval of grade crossing upgrades and improvements.

Safety Upgrades

The installation of warning devices such as flashing lights and roadway gates is the most effective way to improve safety at rail crossings. Over the past 10 years, the PUCO has ordered the installation of lights and gates at more than 1,000 crossings throughout the state, with 72 approved in 2010. In addition, many other safety and engineering enhancements have been implemented at Ohio rail crossings.

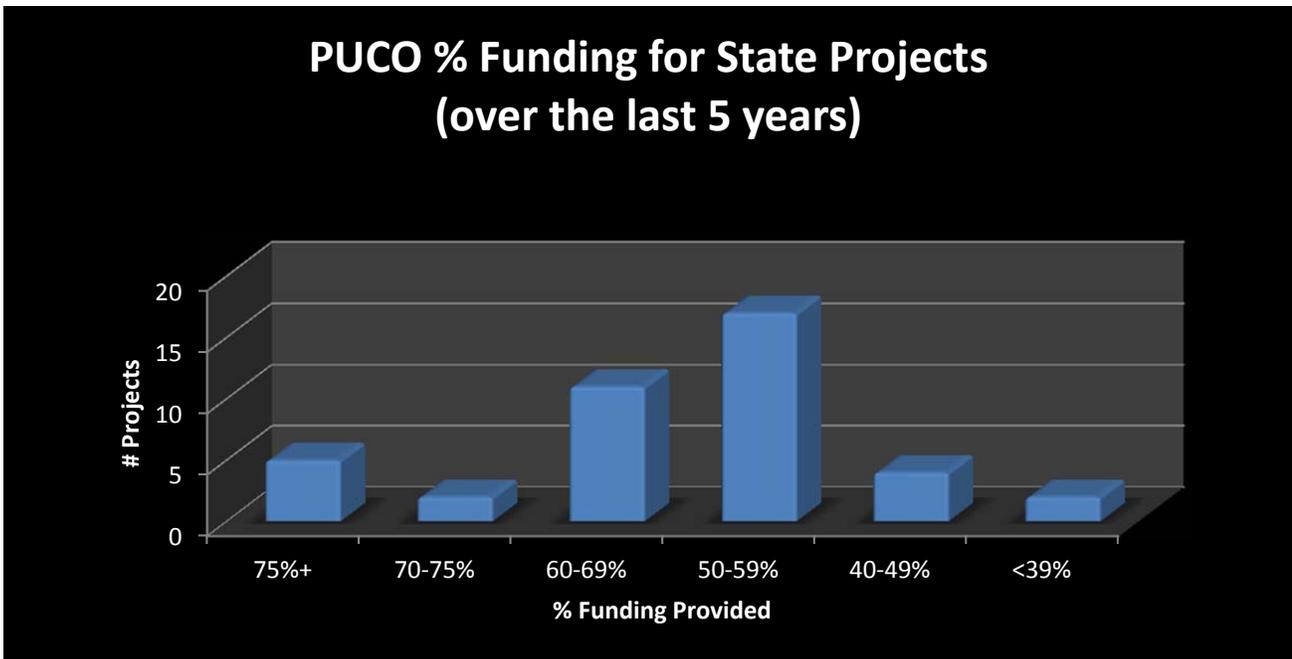
Safety Improvement Funding opportunities

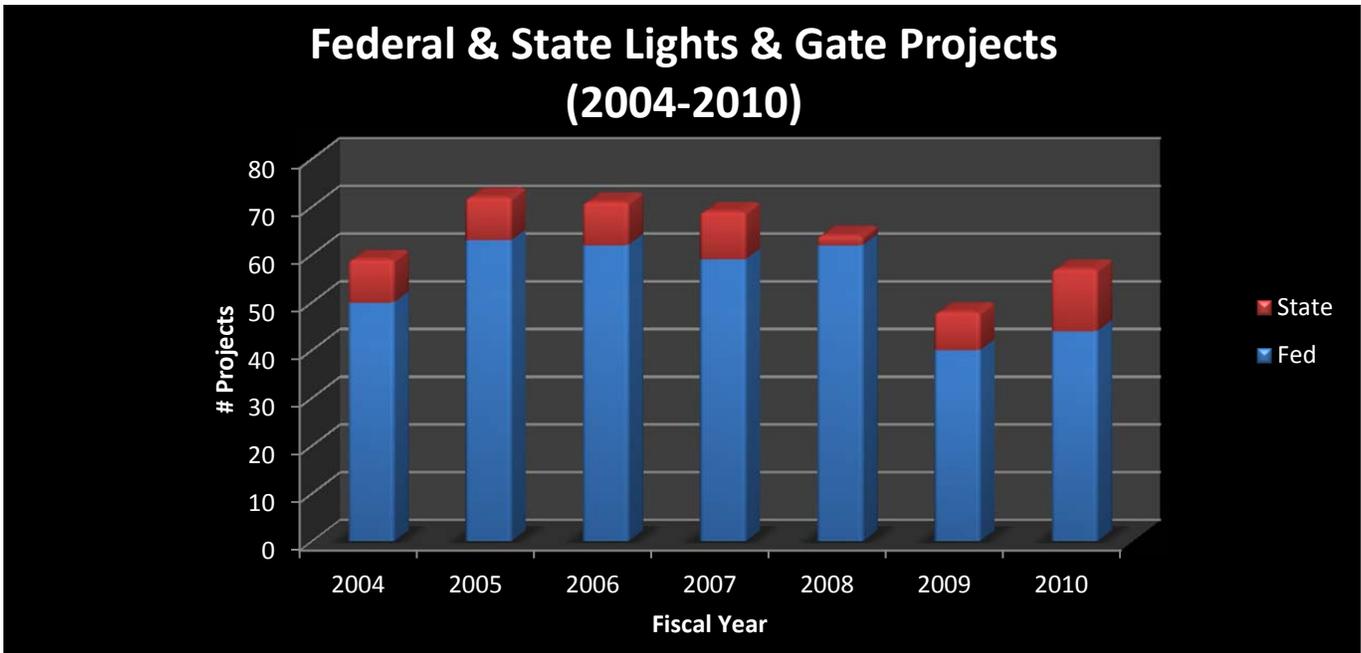
Federal and state funding resources are available to local communities to implement safety upgrades and install lights and gates at crossings. These programs include:

- Federal Funding – The PUCO and Ohio Rail Development Commission, work to select Ohio grade crossings for federally-funded safety upgrades. Crossings for these upgrades are chosen based on a priority list that ranks the crossings in order of risk of accident. Criteria to determine the risk of accident include the number of tracks, average daily traffic, crash history, number of highway lanes, train speed and the number of trains per day. These projects are paid 100 percent through federal funds, and the PUCO requires the railroad to complete the improvements within one year of the date the PUCO issues its order approving the project.

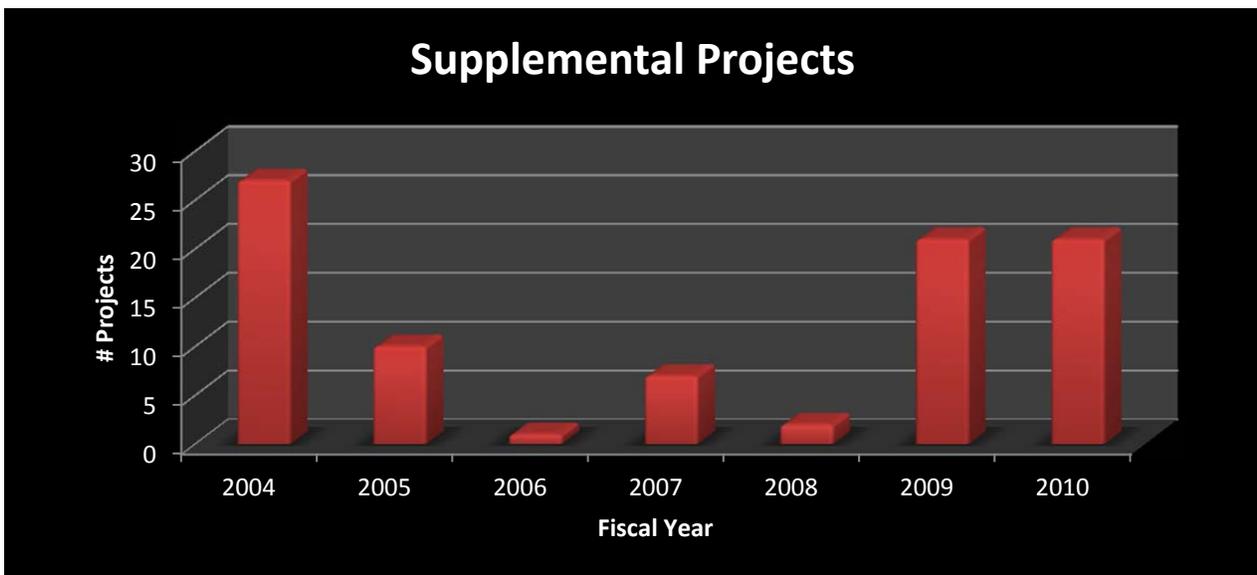
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- State Grade Crossing Protection Program – Ohio Revised Code Section §4907.472 established the Grade Crossing Protection Fund for the State of Ohio. This fund allocates \$1.2 million annually to be used for the reduction of hazards at railroad grade crossings. For crossings not selected for federal funding, the state funded Grade Crossing Protection Program allows local communities to share the cost of installing safety devices with the state and the railroad. Communities who utilize this program may be required to pay between 15 and 65 % of the cost of the project with the railroad responsible for 10% plus ongoing maintenance. The PUCO allocates funds for this program based on an objective formula measuring the seriousness of the hazard and other special conditions at the crossing. Communities wishing to apply for state funding must submit an application to the PUCO for consideration.





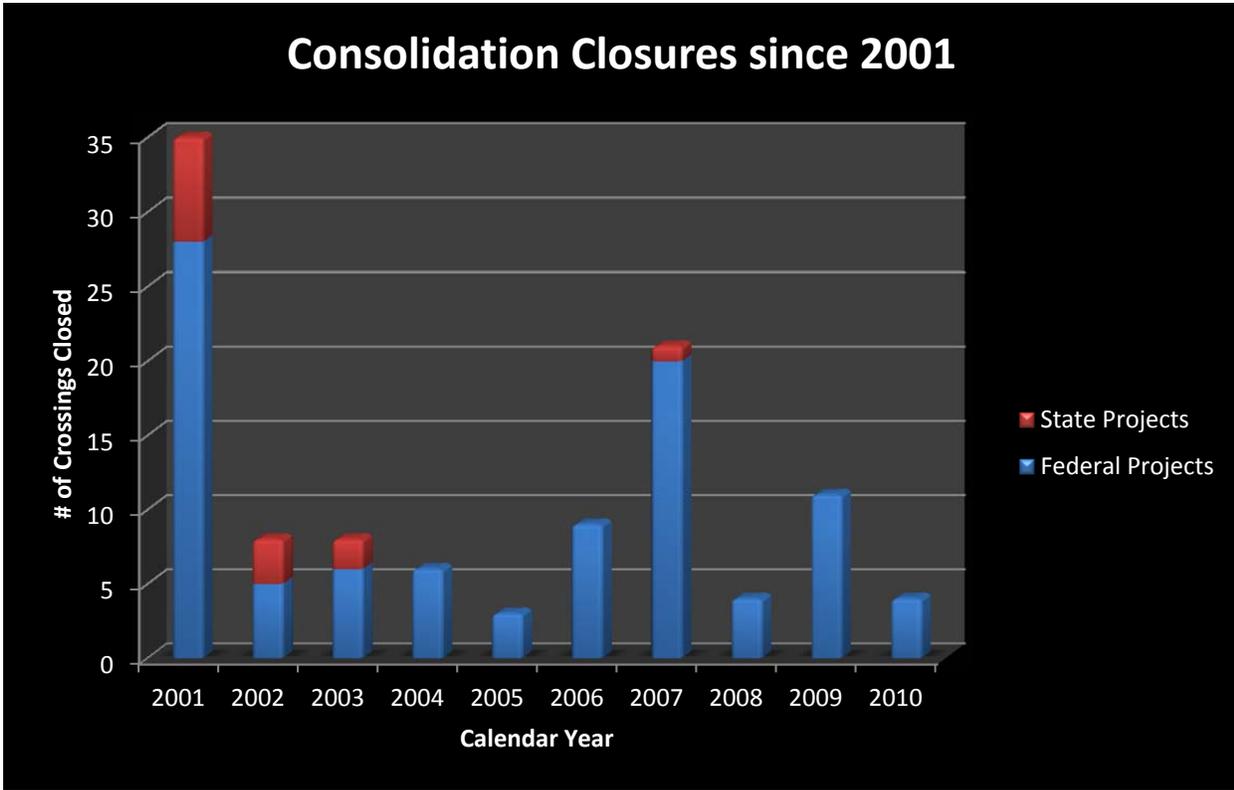
- Supplemental Assistance Program** – The PUCO administers a supplemental assistance program to provide safety enhancements at crossings at which state or federal installation of active warning devices (gates and/or lights) is pending, as well as at crossings that have only passive warning signage. The PUCO provides up to \$5,000 for physical improvements around the crossing such as rumble strips, illumination, improved signage, vegetation cut-back or other safety enhancements. Local governments may erect these physical improvements as an interim measure while waiting for lights and gates to be installed, but the



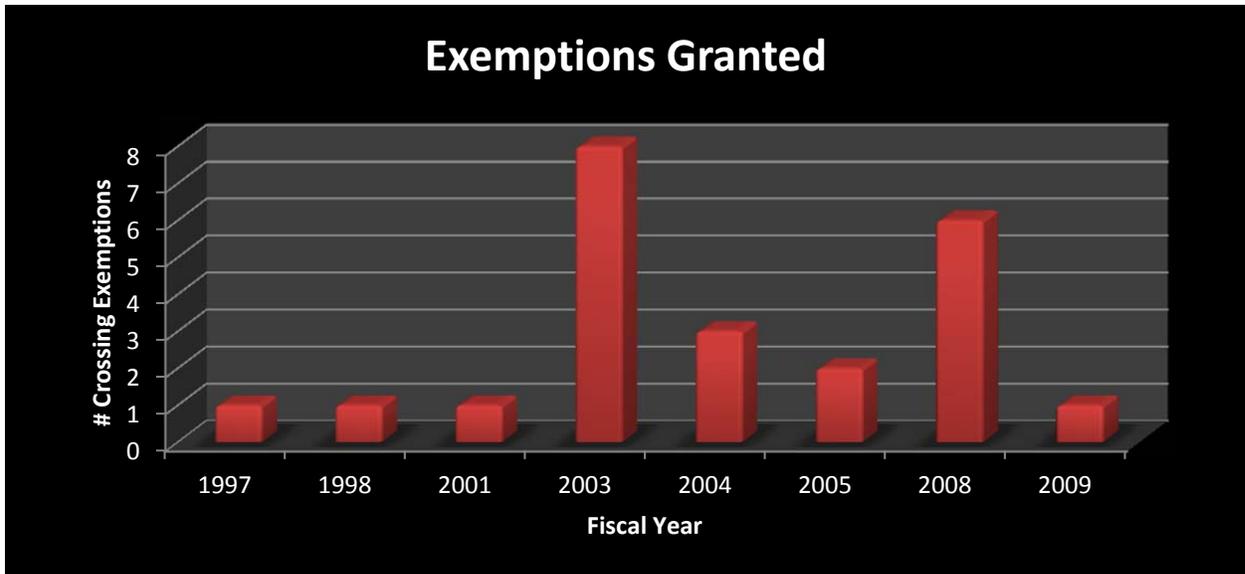
supplemental assistance is not used to install warning devices. To apply for supplemental assistance, the local highway authority must submit an application to the PUCO for approval. Once construction has been completed and approved, the local highway authority may submit their cost for reimbursement.

As the chart above demonstrates, we have seen an increase in assistance requests for this program over the last two fiscal years. This can be attributed in part to a more cohesive effort to increase awareness about the supplemental funding program. Our staff and field inspectors are encouraged to make recommendations for grade crossing improvements based on their field inspections at crossings. Over the last four years, the PUCO has sent over 500 letters to local highway authorities promoting the Supplemental Assistance Program.

- Consolidation Program – In 1991 the Federal Railroad Administration set a goal to close 25% of highway-grade crossings in the United States, and the PUCO is committed to working toward that goal. The consolidation program works to eliminate unnecessary crossings in exchange for implementing safety improvements at other crossings along the same rail corridor. These improvements, such as lights and gates, signage and illumination are paid for through federal, state and railroad funds. When a local community agrees to permanently close a grade crossing to vehicle traffic, the state works to provide funding for the agreed upon upgrades. Communities wishing to participate in the consolidation program contact the ORDC or PUCO. A team will survey the site, evaluate the project, and negotiate the level of participation for the local highway authority and railroad.
- School Initiative Program - Grade crossing safety is one of the highest priorities of the PUCO. Each year, the PUCO contacts over 700 Ohio school districts encouraging their transportation personnel to report any concerns with public grade crossings through which they travel. The PUCO can assist in the removal of weeds and vegetation obstructing sight views at crossings and can try to effectuate repairs at rough crossings. Ohio's professional school bus drivers and transportation officials are in a unique position relative to grade crossings and the PUCO appreciates the assistance received from these individuals every year.
- General Regulatory Powers – In addition to the various programs employed by the State, the PUCO also has the statutory authority to close crossings on its own authority or through proceedings initiated by the local highway authority or railroad.



- Crossing Exemptions** –Under Ohio Revised Code §4511.63, any local authority may file a request for exemption from stopping at the railroad grade crossing. In cases where the railroad is not actively using a crossing, local authorities such as school systems routinely ask for a crossing to be made exempt so that buses and placarded vehicles do not have to stop at the crossing. This is supported by the local highway authority because it reduces the risk of rear end collisions due to busses and placarded vehicles stopping at the crossing; therefore making the crossing safer. Once an application is received by the Commission, comments are requested from all parties and a public hearing is conducted. After considering any comments or information gathered, the Commission either rejects or approves the application with certain conditions. Exemptions may be revoked if the conditions at the crossing change.



- *Special Project Initiatives Completed*

- Grade Crossing Profile Safety Improvement Program

- With the passage of Substitute Senate Bill No. 189 (SB 189), for Fy 2005 & 2006, the PUCO administered a total of \$644,100 toward the Grade Crossing Profile and Safety Improvement Program. The program set forth a criteria to which local governments could be awarded matching grants of up to \$25,000 to help pay for profile improvements at crossings by decreasing the elevation between the roadway and railroad, making it easier for motorist to see approaching trains and vehicle traffic. As specified in the legislation, to qualify for funds, the crossing could not be equipped with lights and gates, must have had a daily train count of at least 10 trains, and have had a daily traffic count of at least 100 motor vehicles per day.

- Circuitry Upgrade Program

- To carry out its responsibilities relative to grade crossing safety in Ohio, the PUCO has initiated various circuitry programs over the past 15 years. In 2007 PUCO staff filed a memorandum outlining a proposal for a Circuitry Upgrade Program. Staff proposed to modernize certain existing automatic warning devices and fund the cost of the projects through the additional \$1.5 million allotment granted to the PUCO from the State Controlling Board. This allotment was above the annual \$1.2 million allotment from Ohio's Grade Crossing Protection Fund. Railroad costs for this program were funded at 100%. Staff identified potential locations through the hazard ranking list and followed up with conducted field assessments. Six projects located in five different counties and involving four different railroads were selected and received circuitry upgrades. The total cost of these upgrades was \$1,730,054.54. Additionally, the PUCO has initiated a program to pay the costs involved with replacing lights at older installations with LED lights

Ohio Rail Development Commission Program Overview

ORDC Railroad Grade Crossing Safety Programs provide funding for highway-railroad grade crossing safety improvements or corrective activity designed to alleviate a highway-railroad hazard.

The ORDC Railroad Grade Crossing Safety Programs are primarily funded from the Federal Highway Administration (FHWA) Highway Safety Improvement Program and Surface Transportation Program. Historically, ORDC has received \$15 million per fiscal year. This amount exceeds the \$8.2 million set-aside for railroad grade crossing safety in the Transportation Equity Act for the 21st Century and the Safe Accountable, Flexible Efficiency Transportation Equity Act – A Legacy for Users (SAFETEA-LU) by \$6.8 million. In addition to this annual expenditure of \$15 million, the ORDC assists ODOT and Metropolitan Planning Organizations (MPO) with the administration of all grade crossing safety improvement projects. An example of this activity would be federal set- asides. For State Fy2010, the total federal expenditures in the grade crossing safety programs for the State of Ohio were \$25,666,940. In addition, the ORDC administered \$434,661 in additional funds on behalf of other entities using non-federal funds, bringing the grand total of investment administered by the ORDC \$26,101,601

- *Corridor Program - In an effort to take advantage of economies of scale and the closure of redundant crossings, the State of Ohio promotes the concept of upgrading segments of rail, with multiple crossings, at one time. The objective of this program is to „seal“ high density rail segments with state of the art active warning devices.*

In 2005 the ORDC began a corridor project from Columbus to Cincinnati on the Norfolk Southern CJ Corridor. The corridor spans eight (8) Ohio counties and has 115 crossings to be addressed. The funding share for the project is 25% railroad funds and 75% federal funds. The first community to be addressed in the CJ Corridor was the City of Springfield. The \$6.5 million dollar project was funded with federal, local and railroad funds and involved five crossing closures, four grade crossings upgraded with 4-quadrant light and gate installations and the remaining crossings on the segment equipped with upgraded signal technology and wayside horns. These improvements enabled the City to apply and receive FRA approval for a Quiet Zone. The progression of the CJ Corridor continues; in Fy 2010 segments on the corridor were addressed in Butler County (5 crossings); Clark County (5 crossings); Franklin County (1 crossing); Greene County (1 crossing); Greene County, City of Fairborn (4 crossings); Madison County (3 crossings); and Madison County, City of London (6 crossings).

In FY 2011 two (2) new corridors are under development.

1. CSX and ORDC have identified a new corridor to be funded over several fiscal years. Galion to Union City, Great Lakes Division, Indianapolis Line Sub-Division will be addressed. The corridor has 123 public at- grade crossings and will be funded at a 25/75% ratio.

2. Norfolk Southern and the ORDC have identified the Heartland Corridor from South Point to Columbus as a candidate for the corridor program. The corridor has 80 public crossings.
- Preemption Program - ODOT and the ORDC launched a joint Statewide Railroad Preemption Evaluation Project in 2009. The purpose of the project is to evaluate and prioritize improvements for highway-rail grade crossings and nearby highway traffic signals that are or should be interconnected for the purpose of interrupting the normal sequence of the traffic signal in order to clear vehicular traffic from the crossing area before train arrival at the crossing. It is imperative that these two traffic control systems work together to avoid tragic situations such as the one that arose in Fox River Grove, Illinois, in 1995, where a school bus was struck by a Metra commuter train resulting in seven fatalities. One of the most significant factors in this collision was the failure of the traffic control signal to provide adequate time for the school bus to move clear of the crossing prior to arrival of the train. Similar accidents, albeit with less publicity, continue to happen across the country on a regular basis. ORDC and ODOT's goal is to reduce this type of accident by developing and implementing standards for establishing appropriate railroad preemption timing parameters and making other improvements to the operations and control equipment for both the highway-rail grade crossing and highway traffic signal systems.

The ODOT Traffic Engineering Manual Standard was finalized in March of 2010 and the list of active projects is growing. For Fy 2010 a total of twelve (12) preemption projects were funded.

To date, the ORDC has identified 180 locations that will be reviewed over the next two years, prioritized and improvements funded over the next decade as funds are available

- Grade Crossing Consolidation Program - The ORDC supports the consolidation initiative and has aggressively pursued the closure of redundant crossings for decades. In the Grade Crossing Consolidation Program, funds providing local incentive for crossing closure are utilized. The ORDC offers a range of improvements. Examples of improvements offered include flashing lights and roadway gates at other grade crossings in the community, surface reconstruction, profile improvement, and/or railroad infrastructure improvements that can benefit the highway user and/or the creation of parallel roadways, cul-de-sacs or T-turnarounds.

Over the years, crossing closures have become increasingly difficult to achieve. In 2010, the ORDC negotiated four (4) crossing closures. In conjunction with these closures, nine (9) surface and three (3) warning device projects were funded.

- County Task Force/Constituent Initiated - The ORDC considers local level grass root interests in grade crossing safety a critical component of its overall program. By outreach to the County Engineer's Association of Ohio, County Commissioners' Associate, Ohio Transportation Engineering Conference (OTEC), and the Angels on Track Foundation (AOT) the ORDC has assisted in the creation of approximately one dozen County Railroad Safety

Task Force organizations throughout the state. In these Task Force groups, ORDC's efforts are often complemented by the work of such rail highway grade crossing safety advocacy groups as AOT. ORDC staff is active on each of the Task Force groups and attempts to partner with local groups to fund safety projects that they prioritize. In addition to Task Force groups, Local Highway Authorities (LHA) may request assistance funding the local share of the PUCO State-funded light and gate projects. The projects funded in 2010 under this category were three (3) warning device installations recommended by Medina County Task Force; eight (8) light and gate installations where ORDC covered the local share funding; and five (5) crossings upgraded as a result of reports received through AOT. AOT is particularly active and uses an aggressive public service announcement campaign to direct constituents to its website where they may report a dangerous crossing. In Fy 2010, 287 AOT reports were received by the ORDC and each report is investigated in depth. AOT reports that did not result in grade crossing improvements either were not selected for improvements with federal funds or are still under review. An additional crossing was reconstructed and relocated due to a constituent report other than AOT.

- *Fatal Crash Upgrade Program* - The Fatal Crash Upgrade Program was a program initiated by the ORDC in 2001. When a community in Ohio experiences a fatal grade crossing crash, the ORDC immediately obtain crash reports from the law enforcement agency that investigated the crash and determines if a field review of the crossing is needed. If the field review ultimately concludes that an engineering improvement would reduce the chance of another crash, the ORDC immediately addresses the engineering issue with a project to implement the corrective action. In Fy 2010, the ORDC funded one (1) installation of flashing lights and roadway gates as a result of this program. Thus far in Fy 2011 the ORDC has identified one project in this program.
- *Crossbuck Assembly Program* - The State of Ohio has undertaken a program to improve safety at passive crossings in the state. The Crossbuck Assembly Program will install new warning devices at all public, passive rail-highway grade crossings in the State of Ohio. This is required to meet the ORDC obligation to restore crossbucks at these locations to MUTCD and FRA standards following the conclusion of the Buckeye Crossbuck evaluation period. The Buckeye Crossbuck incorporated a three-paneled shield with the word "yield." The new crossbuck assemblies feature a standard crossbuck with either a standard yield or stop sign. In addition, it will facilitate bringing the passive warning devices into compliance with 2009 MUTCD which requires a stop or yield sign at all passive grade crossings and previous MUTCD editions which specify retroreflectivity requirements. The construction phase is intended to be complete by December 31, 2011.

This project is mutually beneficial to the ORDC and the railroads, as it (1) meets the ORDC obligation of restoring signage to its original state following the conclusion of the Buckeye Crossbuck evaluation period, and (2) meets the railroads' obligation to meet MUTCD requirements for retroreflectivity. The ORDC is partnering with the railroads to share equally in the installation and material costs of these MUTCD-compliant signs, including labor, materials, and other ancillary costs. ORDC expects to replace crossbuck assemblies at 2,077 passive crossings statewide with \$1,080,165 in federal funds and \$1,110,915 from partner railroads.

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- Railroad-Highway Grade Separations - Ohio has actively pursued the construction of Railroad-Highway Grade Separations. In 2001, in response to increased rail traffic resulting from the Conrail sale to CSX and Norfolk Southern in 1999, the State of Ohio established the Grade Separation Program. This ten-year effort identified and administered \$200 million as a program under the Ohio Department of Transportation, resulting in the selection and development of twenty-eight (28) new grade separation projects in Ohio with a total project cost to date of \$166,041,609. Of the twenty-eight projects identified and deemed eligible for funding, all but three have been completed.

Although the program is no longer active, new Grade Separations Projects are eligible for funding under ODOT's current Major New Project Program. Safety is a major factor for project selection under this program.

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STATE SAFETY PROGRAM OBJECTIVE 1

YEAR INITIATED: 2008

YEAR OF PLANNED COMPLETION: 2018

Problem Statement: Passive grade crossings where the installation of lights and gates is not appropriate continue to have crashes.

Performance Objective: To enhance the physical characteristics at passive grade crossing locations, where the installation of lights and gates is not appropriate in an effort to reduce crashes occurring at such locations.

Performance Objective Measure:

Expend an average of \$35,000/year on supplemental projects from the state grade crossing program.

Performance Objective Status Update:

In Fiscal Year 2010, the PUCO spent \$45,592.88 on 21 supplemental projects.

Program Strategy: Education and Awareness

Program Activity Plan: The PUCO will work with local government agencies to promote the use of funds for the enhancement of physical characteristics of crossings where gates and lights are not appropriate; review requests that have been submitted; award grants to qualifying projects; monitor the progress of projects, and audit selected projects to ensure all financial and project parameters have been followed.

Program Activity Measure: The number of crossing improvements and funds allocated in each fiscal year.

Program Activity

Monitoring & Evaluation: On a quarterly/yearly basis, the PUCO will monitor the number of projects that are being funded and the amount of money allocated for each one to determine if the goals of the activity and overall objective are being met. If necessary, annual goals will be adjusted as deemed necessary.

STATE SAFETY PROGRAM OBJECTIVE 2

YEAR INITIATED: 2008

YEAR OF PLANNED COMPLETION: 2018

Problem Statement: There are locations where the installation of lights and gates are warranted, but are not eligible for funding under the federal program.

Performance Objective: Install lights and gates at crossings where lights and gates are warranted, but are not eligible for federal funding.

Performance Objective Measure:

Facilitate at least 6 light and gate projects per fiscal year.

Performance Objective Status Update:

In Fiscal Year 2010, the PUCO encumbered \$1,196,780.90 on 13 projects.

Program Strategy:

To solicit and review applications from local highway authority's and provide funding based on formula measuring the seriousness of the hazard and other special conditions at the highway grade crossing.

Program Activity Plan:

The PUCO will work with local government agencies to promote the use of funds for the installation of lights and gates where they are warranted but are not eligible for federal funding; review requests that have been submitted; award grants to qualifying projects; monitor the progress of projects, and audit selected projects to ensure all financial and project parameters have been adhered to.

Program Activity Measure:

The number of projects completed and funds allocated in each fiscal year.

Program Activity

Monitoring & Evaluation:

On a quarterly/yearly basis, the PUCO will monitor the number of projects that are being funded and the amount of money allocated for each one to determine if the goals of the activity and overall objective are being met. If necessary, annual goals will be adjusted as deemed necessary.

STATE SAFETY PROGRAM OBJECTIVE 3

YEAR INITIATED: 2008

YEAR OF PLANNED COMPLETION: 2018

Problem Statement: The State will work with various organizations to address grade crossing education and engineering

Performance Objective: The State will work with County Task Forces, Local Highway Authorities, non-profit, public rail crossing education programs to evaluate constituent reports of grade crossing concerns to identify crossings for safety improvements. This addresses goals outlined in our Mission Statement.

Performance Objective Measure: The number of reports received each year varies. It is anticipated that at least five (5) crossings per year will receive safety improvements based on County Task Force and/or constituent reports.

Performance Objective Status Update: The projects funded in 2010 under this category were three (3) warning device installations; (8) eight light and gate installations where ORDC covered the local share funding; and twenty-seven (27) safety improvements as a result of constituent reports.

Program Strategy 1: The State will work with County Task Forces and local highway authorities to identify crossings that are eligible for funding. The State has a strategy in place to evaluate constituent reports and will progress safety improvements based on evaluation and eligibility.

Program Activity Plan 1: The State will evaluate crossings identified by County Task Forces, local highway authorities and constituents and determine which crossings will receive safety improvements. Activities include researching the crossing for hazard index, field reviews, determination regarding improvements, and construction of improvements.

Program Activity Measure 1: The program will be measured by number of crossings submitted for evaluation by Local County Task Forces, local highway authorities, non-profit, public rail crossing education programs and constituents compared to the number evaluated. It will also be measured by the number of crossings selected for improvement and the number of improvements constructed.

Program Activity Monitoring & Evaluation 1: Crossings submitted for evaluation will be recorded and evaluated, except in rare instances, within one year. Crossings selected for safety improvement under this program will be programmed within one year.

Program Strategy 2: The state will continue to work to provide the public with an easy to use method of obtaining information and reporting concerns regarding railroad grade crossings.

Program Activity Plan 2: The Ohio Rail Hotline, will continue to be maintained jointly by the PUCO, the ORDC, and the ODOT, at (866) 814- RAIL (7245). This resource will be used to provide all Ohioans with a toll-free resource to answer all of their rail crossing questions including:

- Reporting any rail safety concerns;

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- Answering questions about a specific railroad crossing;
- Answering questions about funding for railroad crossing safety devices and other crossing improvements;
- Providing information about railroad development opportunities; and,
- Provide answers about rail corridor improvements or public grade crossing closures.

Program Activity Measure 2: The program will be measured by the number of calls coming into the hotline broken down by type.

Program Activity

Monitoring & Evaluation 2: On a quarterly/yearly basis, the PUCO will monitor the number of calls that come into the hotline broken down by type and provide that information to other state agencies so that resources can best be utilized according to the types of issues being raised and problem areas identified.

STATE SAFETY PROGRAM OBJECTIVE 4

YEAR INITIATED: 2005

YEAR OF PLANNED COMPLETION: 2014

Problem Statement: The State of Ohio must find the best possible way to accomplish the upgrade of passive and antiquated active warning devices to state-of-the-art flashing lights and roadway gates at as many crossings as possible. The Corridor Program allows our partner railroads who have dense rail traffic corridors and line segments with crossing which are equipped with passive warning devices or antiquated active warning devices to overlay these upgrades in line with the State’s goals. In addition, the Railroad and State will partner to eliminate redundant crossings within these corridors. This partnership allows for a cost sharing of railroad funds and government funds.

Performance Objective: The objective of the Corridor Program is to maximize limited resources and address a series of crossings along the same rail corridor thereby achieving savings from purchase of materials in a bulk fashion, labor savings by eliminating remobilization costs and obtaining railroad share of cost.

Performance Objective Measure: The State of Ohio will analyze the average cost per crossing in rail corridors in comparison to the average cost of the same railroads’ stand alone projects.

Performance Objective Status Update: The State of Ohio has been progressing the CJ corridor for the last 6 years. In 2010, 25 crossings were addressed.

Program Strategy: The State of Ohio continues to work with our railroad partners on development of Corridor Projects. The ORDC is currently in negotiations with both NS and CSX for the Heartland Corridor from South Point to Columbus and the CSX Galion to Union City, Great Lakes Division, and Indianapolis Line Sub-Division respectively.

Program Activity Plan: The State of Ohio programs are frequently overlapping. For example, while 115 locations were identified by the CJ Corridor with NS; the PUCO Prioritization Program, the ORDC Fatal Crash Program, the ORDC Fatal Crash Program or other programs might identify the some of the same locations. The State of Ohio shall monitor the progression of the Corridor Project and make every attempt to realize the economy realized from the program.

Program Activity Measure: Measure of activities is based on number of grade crossing improvements identified compared to the number of improvements completed.

Program Activity

Monitoring & Evaluation: Each fiscal year a number of locations within the target corridors will be identified for progression as individual projects. The projects will be monitored by ORDC. Evaluation will be based on timely progression and completion of construction.

Program Activity Measure: ORDC will compare per project costs for projects initiated under the corridor program against the cost of the projects if they were completed individually.

STATE SAFETY PROGRAM OBJECTIVE 5

YEAR INITIATED: 2009

YEAR OF PLANNED COMPLETION: 2021

Problem Statement: Motorists stopped at highway traffic signals in close proximity of highway-rail grade crossings queue over the tracks increasing the potential for crashes, injuries and fatalities at grade crossings. Preemption, or interconnection between highway-rail grade crossing warning devices and highway traffic signals, is a method to reduce the likelihood of vehicles occupying the tracks when a train is approaching. The State has identified 180 highway-rail grade crossings that have, or should have, interconnection with nearby highway traffic signals. These crossings need to be prioritized and evaluated for potential improvements to reduce the likelihood of crashes.

Performance Objective: The objective is to improve the identification of high-risk highway-rail grade crossings and evaluate and prioritize improvements for 180 highway-rail grade crossings and nearby highway traffic signals that are or should be interconnected for the purpose of interrupting the normal sequence of the traffic signal in order to clear vehicular traffic from the crossing area before train arrival at the crossing. The preemption program will reduce the human factor of motorists being stopped on the tracks when a train is approaching, thereby increasing grade crossing safety.

Performance Objective Measure:

Performance will be measured by the number of locations that receive corrective action for preemption. These locations may be drawn from the current list of 180 grade crossings or from other sources that identify a need for highway-rail grade crossing preemption.

Performance Objective Status Update:

The Preemption Program started in 2009 with the development of an ODOT standard for railroad preemption in the State of Ohio and the identification of locations that are, or should be, preempted. The ODOT Traffic Engineering Manual Standard was finalized in March of 2010 and the list of active projects is growing. For FY 2010 a total of twelve (12) preemption projects were funded and ORDC is providing technical assistance on over 20 community projects.

Program Strategy:

The State will review grade crossings for preemption needs and implement preemption between highway-rail grade crossings and highway traffic signals as recommended.

Program Activity Plan:

The 180 highway-rail grade crossings identified as needing preemption will be prioritized using mathematical formula by the end of 2011. Evaluation and recommendations for improvements for all 180 crossings will be complete by the end of 2012. Improvements to identified crossings will commence in 2011 and be complete by 2021. Railroad and highway projects identified through other programs will be evaluated and coordinated for preemption needs. ORDC will:

- Prioritize the 180 identified crossings.
- Implement a system to evaluate all new railroad projects funded by ORDC for preemption.
- Work with ODOT to identify highway projects that require railroad preemption.
- Projects will be scheduled based on the priority ranking.

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Program Activity Measure: The 180 identified crossings have been prioritized using a mathematical formula. These crossings will be scheduled for improvement based on available funds. New highway projects that are identified as requiring preemption with railroad grade crossings will be addressed during construction of the highway project. New railroad projects that are identified as requiring preemption will be addressed during construction of the railroad projects.

Program Activity

Monitoring & Evaluation: During 2012 all 180 projects will be evaluated and scheduled for review. New railroad projects will be monitored for preemption needs as an on-going process. ORDC will work with ODOT for a yearly update of highway projects that require preemption.

STATE SAFETY PROGRAM OBJECTIVE 6

YEAR INITIATED: 2010

YEAR OF PLANNED COMPLETION: 2012

Problem Statement: Crossbucks at public, passive rail-highway grade crossings in the State of Ohio are required to be restored to MUTCD standards following the conclusion of the Buckeye Crossbuck evaluation period. Passive warning devices need to be brought into compliance with 2009 MUTCD which requires a stop or yield sign at all passive grade crossings and previous MUTCD editions which specify retroreflectivity requirements. At the beginning of the program there were an estimated 2,077 grade crossings in Ohio that meet this criteria, with an estimated 4,154 crossbucks.

Performance Objective: The Crossbuck Assembly Program will install new warning devices at all public, passive rail-highway grade crossings in the State of Ohio. This is required to meet the ORDC obligation to restore crossbucks at these locations to MUTCD standards following the conclusion of the Buckeye Crossbuck evaluation period. In addition, it will facilitate bringing the passive warning devices into compliance with 2009 MUTCD which requires a stop or yield sign at all passive grade crossings and previous MUTCD editions which specify retroreflectivity requirements.

Performance Objective

Measure: Objective will be complete when all identified crossings have MUTCD compliant crossbuck assemblies in place. It is currently estimated that this involves replacement of 4,154 crossbucks. The crossing locations will be compared to the PUCO inventory list. A random field check of 10% of improved crossings will be conducted by ORDC staff or designated personnel.

Performance Objective Status Update:

Program Strategy: The State will partner with approximately 33 railroads for the replacement of crossbucks at all public, passive rail-highway grade crossing with new MUTCD compliant crossbuck assemblies.

Program Activity Plan: The following activities are planned to complete the Crossbuck Assembly Program:

- Identification of locations with public, passive rail-highway grade crossings in Ohio and the number of assemblies required at each location.
- Agreements executed with 33 railroad entities for work to be performed.
- Construction of signs and delivery to railroads.
- Installation of crossbuck assemblies.
- Verification of improvements performed by comparing railroad certified documentation with the PUCO inventory list and conducting random field check of 10% of improved crossings.

Program Activity Measure: Activities will be measured by number of railroads that have confirmed grade crossing inventory, number of railroads with signed agreements, and number of crossbuck assemblies installed.

Program Activity

Monitoring & Evaluation: The State will monitor program activity by means of checklists, spreadsheets and inspections. Program will be evaluated based on number of activities complete.

STATE INSPECTION AND GRANT PROGRAMS

In addition to the wide array of grade crossing specific programs Ohio also employs a robust multi-faceted inspection program. This inspection program seeks to address not only grade crossings but also the equipment, people and systems that utilize those crossings. The objectives that follow provide a brief overview of the types of additional rail safety programs being employed in Ohio that enhance safety on Ohio’s railroads and in doing so further reduce the potential for incidents along grade crossings throughout the state.

Objective: **Conduct Hazardous Materials Inspections**

Activities: Responsible for monitoring regulatory compliance of hazardous materials shipments by rail within an assigned territory:

Goals: The PUCO Rail Division conducts periodic inspections of the handling of hazardous materials to ensure compliance with state and/or federal safety standards. The table below contains the actual performance related to the major types of activities performed for the last three years. Inspection days goal is 50.

Inspection Type	2008	2009	2010
Reports	190	200	189
Defects	429	266	255
Units	12288	8688	9146
Observations	1025	998	959
Violation Reports	1	5	4
Violation Defects	1	6	4
Inspection Days	167	170	163

Monitoring: Work performed by the rail division is monitored on a regular basis by the Rail division supervisor as well as officials from the FRA. On a monthly, quarterly and yearly basis reports will be prepared detailing the work performed to ensure the overall yearly goals for each area are at pace. Based upon the work load and specific needs the supervisor will work with staff to ensure goals are met, or in cases where expected work demand is below the goals that have been set, adjustments to the overall goals will be made.

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Objective: **Conduct Motive Power and Equipment Inspections**

Activities: Responsible for the improvement and advancement of railroad safety in areas related to design, construction, inspection, maintenance and use of railroad rolling stock and related appurtenances within an assigned territory:

Goals: The PUCO Rail Division conducts periodic inspections that provide assurance that railroad cars and locomotives are operational in compliance with state and/or federal safety standards. Inspectors are charged with the impartial and uniform application of the laws, rules, and regulations, orders and standards pertaining to railroad equipment. The table below contains the actual performance related to the major types of activities performed for the last three years. Inspection days goal is 50.

Inspection Type	2008	2009	2010
Reports	104	145	174
Defects	723	832	923
Units	7893	10890	11951
Observations	356	516	568
Violation Reports	3	8	4
Violation Defects	5	12	11
Inspection Days	83	111	139

Monitoring: Work performed by the Rail Division is monitored on a regular basis by the Rail Division supervisor as well as officials from the FRA. On a monthly, quarterly and yearly basis reports will be prepared detailing the work performed to ensure the overall yearly goals for each area are at pace. Based upon the work load and specific needs the supervisor will work with staff to ensure goals are met, or in cases where expected work demand is below the goals that have been set, adjustments to the overall goals will be made.

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Objective: Conduct Operating Practices Inspections

Activities: Concerned with operating rules and practices, administration of Federal alcohol and drug control programs, hours of service for railroad employees involved with the movement of trains, Federal locomotive engineer certification standards, occupational safety conditions and reporting, and employee training and qualification:

Goals: The PUCO Rail Division conducts periodic inspections and investigations to ensure that the operating practices of the railroad are in compliance with state and federal laws and regulations. The table below contains the actual performance related to the major types of activities performed for the last three years. Inspection days goal is 50.

Inspection Type	2008	2009	2010
Reports	157	99	56
Defects	159	68	39
Units	710	430	378
Observations	508	412	345
Violation Reports	22	1	0
Violation Defects	23	1	0
Inspection Days	134	96	56

Monitoring: Work performed by the Rail Division is monitored on a regular basis by the Rail Division Supervisor as well as officials from the FRA. On a monthly, quarterly and yearly basis reports will be prepared detailing the work performed to ensure the overall yearly goals for each area are at pace. Based upon the work load and specific needs the supervisor will work with staff to ensure goals are met, or in cases where expected work demand is below the goals that have been set, adjustments to the overall goals will be made.

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Objective: Conduct Signals and Train Control Inspections

Activities: Concerned with signal and train control and highway-rail crossing warning systems within an assigned territory:

Goals: The PUCO Rail Division conducts periodic inspections and investigations to ensure that highway rail crossing warning systems are in proper working order and in compliance with state and federal laws and regulations. The table below contains the actual performance related to the major types of activities performed for the last three years. Inspection days goal is 50.

Inspection Type	2008	2009	2010
Reports	93	103	103
Defects	143	198	233
Units	1190	2058	1933
Observations	171	196	193
Violation Reports	1	1	1
Violation Defects	1	3	1
Inspection Days	91	103	102

Monitoring: Work performed by the Rail Division is monitored on a regular basis by the Rail Division Supervisor as well as officials from the FRA. On a monthly, quarterly and yearly basis reports will be prepared detailing the work performed to ensure the overall yearly goals for each area are at pace. Based upon the work load and specific needs the supervisor will work with staff to ensure goals are met, or in cases where expected work demand is below the goals that have been set, adjustments to the overall goals will be made.

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Objective: Conduct Track Inspections

Activities: Perform inspection and monitoring functions to assure compliance with state and/or federal safety and health regulations among railroads, railroad employees, and contractors to railroads within an assigned geographical territory:

Goals: The PUCO Rail Division conducts periodic inspections and investigations to ensure that railroad tracks meet state and/or federal safety regulations. The table below contains the actual performance related to the major types of activities performed for the last three years. Inspection days goal is 50.

Inspection Type	2008	2009	2010
Reports	147	144	80
Defects	606	419	208
Units	2630	3343	1547
Observations	525	464	297
Violation Reports	1	0	1
Violation Defects	1	0	1
Inspection Days	97	97	66

Monitoring: Work performed by the Rail Division is monitored on a regular basis by the Rail Division Supervisor as well as officials from the FRA. On a monthly, quarterly and yearly basis reports will be prepared detailing the work performed to ensure the overall yearly goals for each area are at pace. Based upon the work load and specific needs the supervisor will work with staff to ensure goals are met, or in cases where expected work demand is below the goals that have been set, adjustments to the overall goals will be made.

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Objective: Conduct Grade Crossing Inspections

Activities: Responsible for monitoring regulatory compliance or railroad grade crossings

Goals: The PUCO Rail Division conducts inspections of railroad grade crossings on a routine basis and investigates complaints from the public, rail unions and state/local governments. The goal is 90% of the total number of grade crossings.

Inspection Type	2009	2010
Assigned Crossings Inspected (Note 1)	4691	3464
Assigned Crossings	6000	5900
% Assigned Crossing Inspections Complete	78%	59%

Complaint Investigations			
Type	2008	2009	2010
Blocked Xing	3	2	10
Bridge	6	5	11
Drainage	17	8	4
Fence	1	2	3
Malfunctions	14	16	24
Other	28	16	16
Private Xing Issue	5	2	1
Rough	132	104	107
Track	2	3	2
Union	37	22	19
Visibility	12	7	3
Weed&Veg	75	72	90
Total	332	290	262

Monitoring: Work performed by the Rail Division is monitored on a regular basis by the Rail Division Supervisor as well as officials from the FRA. On a monthly, quarterly and yearly basis reports will be prepared detailing the work performed to ensure the overall yearly goals for each area are at pace. Based upon the work load and specific needs the supervisor will work with staff to ensure goals are met, or in cases where expected work demand is below the goals that have been set, adjustments to the overall goals will be made.

PROGRAM CHALLENGES

1. The Consolidation Program faces a number of significant challenges.
 - The ability to negotiate closures of redundant grade crossings is restricted by funding limitations. For example, improvements other than warning device installations, such as surface reconstructions, require a 10% non-federal funding match; and a cap on incentive payment of \$7,500 (23CFR, Section 130 (i)(3)(B)).
 - It is increasingly difficult to negotiate closures as the safety benefits are difficult to convey to political leaders and constituents, and the value of incentives is not sufficiently attractive to overcome public resistance to road closures.
2. The inability to mandate that local highway authorities conform to ODOT's Highway-Rail Grade Crossing Interconnection Standard compromises the ability of the Preemption Program to ensure that the optimum level of safety is reached for interconnection between railroad warning devices and traffic signals on other than state and US routes. In some cases a „next-best“ scenario must be implemented based on negotiations with LHAs.
3. Appropriation increases must be legislatively approved even when funds already exist. In accordance with section 131.25 (A)(3), Ohio Revised Code, the P UCO will request an increase in appropriation from the Grade Crossing Protection Fund in the amount of \$1.6 million. The additional funds will be used to alter public-at-grade crossings, in various municipalities throughout Ohio, by upgrading existing antiquated flashing-light railroad warning signals with the installation of new 12" LED flashing-light railroad crossing warning signals.
4. Due to the high cost associated with railroad-highway grade separations and the limited funds available for grade crossing warning devices Ohio does not have a dedicated program for grade separation projects. Potential grade separation projects must compete with other major highway projects for funding.

FY 2012 OHIO RAILROAD SAFETY PLAN

STATE PROGRAM CONTACTS

This section provides a list of contacts who are responsible for rail activities in the state.

Name	Agency	Phone
Rob Marvin Department Director	Public Utilities Commission of Ohio	614-466-0437
Leah Thomas-Dalton Rail Division Chief	Public Utilities Commission of Ohio	614-466-0407
Matt Dietrich Executive Director	Ohio Rail Development Commission	614-644-0295
Susan Kirkland Safety Manager	Ohio Rail Development Commission	614-644-0286
Cathy Stout Assistant Safety Manager	Ohio Rail Development Commission	614-644-0313
Evelyn Hendricks Grade Crossing Manager	Federal Railroad Administration	330-416-1139
Michael Armstrong Safety Engineer	Federal Highway Administration	614-280-6855