A Report
to the
Montana
Legislature

Performance Audit

Railroad Safety

Public Service Commission
Department of Military Affairs
Department of Transportation

October 2015

Legislative Audit
Division

14P-13

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Performance audits conducted by the Legislative Audit Division are designed to assess state government operations. From the audit work, a determination is made as to whether agencies and programs are accomplishing their purposes, and whether they can do so with greater efficiency and economy.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Members of the performance audit staff hold degrees in disciplines appropriate to the audit process.

Performance audits are performed at the request of the Legislative Audit Committee which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

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October 2015

The Legislative Audit Committee
of the Montana State Legislature:

This is our performance audit of Railroad Safety and associated programs managed by the Public Service Commission, Department of Military Affairs, and Department of Transportation.

This report includes recommendations for improving statewide emergency planning, training and equipping, and hazardous materials response at Department of Military Affairs; and rail safety program administration at the Public Service Commission. Written responses from the Department of Military Affairs, Department of Transportation, and the Public Service Commission are included at the end of the report.

We wish to express our appreciation to Public Service Commission, Department of Military Affairs and Department of Transportation personnel for their cooperation and assistance during the audit.

Respectfully submitted,

/s/ Tori Hunthausen

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Table of Contents

Figures and Tables iii
Elected, Appointed, and Administrative Officials iv
Report Summary S-1

CHAPTER I – INTRODUCTION 1
Introduction 1
Agency Responsibilities 2
Audit Objectives 3
Audit Scope 4
Public Service Commission 4
Montana Disaster and Emergency Services 4
Montana Department of Transportation 4
Audit Methodologies 4
Management Memorandum 5
Report Contents 5

CHAPTER II – PUBLIC SERVICE COMMISSION 7
Introduction 7
Administration of the Rail Safety Program 8
State and Federal Law Provide PSC Authority and Safety Program Responsibilities 8
Federal and State Partnership 8
Association of State Rail Safety Managers Establishes Best Practices 9
Best Practices Include State Rail Safety Work Plans 10
Some Context for Emergency Planning and Risk Mitigation 10
A Snapshot of Montana Rail Accidents 11
Disaster and Emergency Planning and Mitigation 11
Lack of Engagement is Limiting the Potential of the Rail Safety Program 12
Inspection Capability 13
Rail Safety State Participation Regulations 13
FRA Inspector Coverage in Montana 13
PSC's Inspector Coverage 13
Other States' Rail Safety Programs 14
Railroad Accident Statistics Trending Downward Through Multiple Factors 16
FRA Region 8 Outlook 18
Montana Inspections–Track 18
Montana Inspections–Signal and Train Control 18
Montana Inspections–MP&E 19
FRA Enforcement Report 20
How States Are Adapting to Increased Concern Over Rail Safety 21
Current Changes to Regional Rail Safety Programs 21
FRA Region 8 Recommendations to Increase Inspectors 23
Funding 23
The State Rail Safety Inspection Program Needs to Expand 24

CHAPTER III – MONTANA DISASTER AND EMERGENCY SERVICES 25
Introduction 25
Statewide Planning 27
DES Statutory Responsibilities for Statewide Emergency Planning 27

Montana Emergency Response Framework 27
Incomplete Statewide Plan Causes Gaps in Local Planning 29
Why Are the Emergency Support Functions Not Complete? 30
Completion of the Statewide Plan Should Occur 30
Coordination of Planning, Training, and Equipping Across the State 31
DES Statutory Responsibility Related to Statewide Coordination 31
Local Planning Could Be Improved 32
Hazardous Materials Training 33
DES Provided Training 34
Montana State University Fire Services Training School 34
Railroad Company Training 35
Lack of Training Execution at Local Level Is Widespread 35
Individual Firefighter Equipment Is Limited Statewide 36
How Some States Are Solving Similar Problems 37
Montana DES Is Not Tracking First Responder Capability at Regional or Local Levels 39
Some Assistance Mechanisms Are in Place but Not Being Maximized 39
Northeastern Montana Response to HAZMAT Events 40
DES Statutory Authority to Ensure Statewide Response Capability 40
State Emergency Response Commission (SERC) 41
Regional HAZMAT Teams and Deployment 42
Local Dependence on Regional HAZMAT Teams 43
HAZMAT Team Planning Windows 44
Railroad HAZMAT Capability 44
Why Is There Not a Regional HAZMAT Team in Northeastern Montana? 45
Department of Military Affairs HAZMAT Response Deployment Options 45
How Other States Are Ensuring Statewide HAZMAT Coverage 46
DES Is Not Meeting its Statutory Responsibilities but There Are Options 47

CHAPTER IV – MONTANA DEPARTMENT OF TRANSPORTATION 49
Introduction 49
State Law Provides MDT Authority Over the Highway-Rail Interface 49
Funding 50
Avenues for Crossing Improvements and Upgrades 51
Crossing Modernization 52
Urban Crossing Issues 53
Validating the Priority Index System 53
Legislative Consideration of Changing Railroad Safety Priorities 54
What Kind of Agency Should Be Responsible for Railroad Safety? 54
How Should Railroad Safety Functions be Funded? 55
Changing Priorities in Railroad Safety 56

RESPONSES
Montana Department of Transportation A-1
Montana Public Service Commission A-3
Department of Military Affairs A-9

Figures and Tables

Figures

Figure 1 Montana Rail System Map 1

Figure 2 Montana Train Accident Locations..... 11

Figure 3 PSC Inspector Coverage Map 14

Figure 4 Federal Railroad Administration–2014 State Program Overview 15

Figure 5 Inspectors by Type in State Programs 16

Figure 6 National Railroad Accident Statistics by Cause 17

Figure 7 Disaster and Emergency Services Districts..... 26

Figure 8 Regional HAZMAT Team Locations..... 42

Figure 9 Railroad Crossings With Active Crossing Signals/Railroad Crossings With Passive Crossing Signals..... 50

Tables

Table 1 MP&E Inspection Statistics for 2014..... 19

Table 2 Emergency Support Function Completion Status..... 29

Table 3 Railroad Car Tax Revenue Estimates..... 55

Elected, Appointed, and Administrative Officials

Public Service Commission			**Term Expires**
	Brad Johnson	Chairman	2018
	Travis Kavulla	Vice Chairman	2018
	Kirk Bushman	Commissioner	2016
	Roger Koopman	Commissioner	2016
	Bob Lake	Commissioner	2016
	Kate Whitney, Administrator, Regulatory Division		
	Nickie Eck, Business Operations Supervisor, Regulatory Division		
Department of Military Affairs	**Disaster and Emergency Services Division**		
	Major General Matthew Quinn, Adjutant General		
	Delila Bruno, Administrator		
	Steve Knecht, Deputy Administrator		
Department of Transportation	Mike Tooley, Director		
	Lynn Zanto, Administrator, Rail, Transit and Planning		
	John Althof, Rail Highway safety Manager		
	Roy Peterson, Traffic and Safety Bureau Chief		
	Christopher Dorrington, Multimodal Planning Chief		

Montana Legislative Audit Division

Performance Audit
Railroad Safety
Public Service Commission, Department of Military Affairs, and Department of Transportation

October 2015 14P-13# Report Summary

Nationwide interest in railroad safety continues to grow after several major rail accidents across Canada and the United States involving transport of crude oil by rail that resulted in catastrophic fires, fatalities and destruction of homes, businesses, and in one incident, an entire Canadian town center. The Public Service Commission is not actively pursuing rail safety and does not have adequate safety inspector coverage for the state. Montana Disaster & Emergency Services is not meeting all of its statutory responsibilities relative to coordinating emergency management or ensuring local emergency response agencies can respond to a train derailment with hazardous materials. The Montana Department of Transportation is adequately managing highway-rail crossing safety within resources.

Context

U.S. crude oil production has risen sharply in recent years, with much of the increased output moving by rail. In 2008, U.S. railroads originated 9,500 carloads of crude oil; in 2013, 407,761 carloads, while in the first half of 2014, it was 229,798 carloads. Even though Bakken oil production has slowed somewhat recently, production and shipment of crude-by-rail still exceeds figures prior to the Bakken oil boom.

Currently, an average of ten Bakken crude oil shipments per day come out of North Dakota, four of which transit Montana. When a new crude oil transfer facility in North Dakota comes on line, Bakken crude oil shipments across Montana will increase by up to five trains per week. At full capacity, this shipping facility will increase crude oil shipments up to as many as 40 trains per week across the state.

Results

Audit work identified: The state rail safety inspection program is not adequate; the absence of statewide emergency planning is leading to weaknesses in local emergency planning systems; there is a lack of hazardous materials response capability in a large portion of the state; first responders are not properly trained or equipped to respond to hazardous materials incidents; and the highway-rail crossing safety program is adequate.

Audit recommendations to the Public Service Commission include:

Becoming more active in it its administration of rail safety in Montana to include:

- Active involvement in the Association of State Rail Safety Managers to ensure Montana has a voice at the national level.
- Conduct a state rail safety risk assessment; establish rail safety goals and objectives; and develop a state rail safety plan for Montana that is reviewed annually with the Federal Railroad Administration.
- Actively engage with Montana Disaster and Emergency Services (DES), and the other state and federal agencies, in emergency planning to ensure the rail safety program is proactively addressing risk in the state.

(continued on back)

- Increase its railroad safety inspection capability across the state through increased inspection coverage and frequency.

Audit recommendations to Montana DES include:

- Complete all Emergency Support Functions within the Montana Emergency Response Framework and set a cyclic update plan for annexes with the associated departments.
- Establish a system for determining local jurisdiction capability statewide in order to address capability limitations at the local, county, and regional level.
- Seek statutory authority that supports a system whereby local governments report local jurisdiction capability to DES on an annual basis.
- Develop and test hazardous materials response capabilities for Northeastern Montana that mirrors the typical response window of four to six hours.

Audit work concluded the Montana Department of Transportation (MDT) Highway-Rail Crossing Inventory System, is an accurate and valuable tool for ensuring highway-rail crossing safety in Montana, and MDT proactively addresses rail crossing maintenance and upgrade issues. However, additional measures could be taken to address crossing safety and traffic delays with additional resources.

Audit work also identified an option of transitioning the rail safety inspection program from the Public Service Commission to another department in state government.

Recommendation Concurrence	
Concur	3
Partially Concur	1
Do Not Concur	1

Source: Agency audit responses included in final report.

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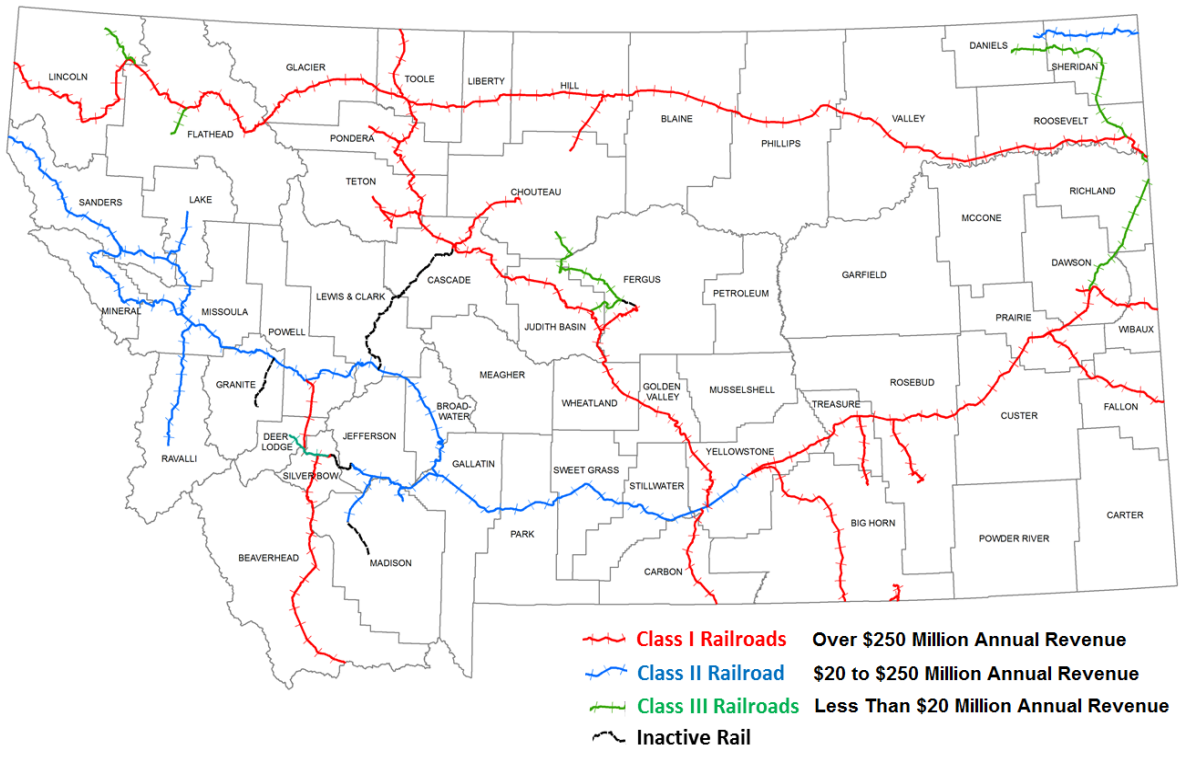
Chapter I – Introduction

Introduction

Montana has recently seen an increase in the volume of railroad traffic transiting the state. Some of this increase is due to higher volumes of coal being transported from mines in Montana and other states, but part is also due to increasing volumes of crude oil being shipped by rail. U.S. crude oil production has risen sharply in recent years, with much of the increased output moving by rail. In 2008, railroads originated 9,500 carloads of crude oil; in 2013, 407,761 carloads; and in the first half of 2014, it was 229,798 carloads. Even though Bakken oil production has slowed somewhat recently, production and shipment of crude-by-rail still exceeds figures prior to the Bakken oil boom. The following figure shows the state's railroad system and indicates the different classes of railroad.

Figure 1
Montana Rail System Map



Source: Compiled by Legislative Audit Division with information provided by MDT.

Currently, an average of ten Bakken crude oil shipments per day come out of North Dakota, four of which transit Montana. When the new oil transloading facility in East

Fairview, North Dakota comes on line, the first phase of crude oil shipments across Montana is expected to increase by four or five trains per week. In the final phase, crude oil shipments will increase to as many as seven trains per week. At full capacity, North Dakota will be shipping as many as 40 trains per week across Montana.

Nationwide interest in crude-by-rail safety continues to grow after several major rail accidents across Canada and the United States involving catastrophic fires, fatalities, and destruction of homes, businesses and in one incident, an entire town center in Canada. One of the largest risks surrounding Bakken crude oil shipments is the potential volatility or flammability of the oil and the potential for groundwater contamination.

Using the main Class I and II rail lines we identified 183,047 Montana residents, nearly 20 percent of the state's population, living in evacuation zones for an oil train derailment. These evacuation zones are based on US Department of Transportation (DOT) evacuation zones of one half mile for a train derailment. Additionally, various facilities and structures are located within this zone including: 47 hospitals/medical centers, 169 fire stations, and 353 schools. These numbers increase when taking into account DOT's evacuation zone for an oil train fire, which increases from one half mile to a full mile. While crude oil is considered a hazardous material, it is not the only hazardous material being moved on rail lines. For example, all states have had to deal with derailments involving other hazardous materials like chlorine. Also adding to the growth in rail activity is the anticipated increase in coal shipments in the state.

The Legislative Audit Committee prioritized a performance audit addressing railroad safety issues, including the role of different state agencies relating to the state's railroad system. In this audit we addressed multiple aspects of the rail safety spectrum. On one end we looked at highway-rail crossing maintenance; rail incident planning and prevention measures; and first responder preparatory activities. On the other end of the spectrum we looked at first responder hazardous materials (HAZMAT) response capabilities. The scope of our audit included several different state agencies, each of which are discussed in the following section.

Agency Responsibilities

The Montana Public Service Commission (PSC), in partnership with the Federal Railroad Administration, is responsible for the supervision of the railroads through inspection and enforcement of safety and security measures governed by federal law. The Commission regulates the railroads through annual fee assessments and employs two rail safety inspectors to carry out rail safety oversight.

The Department of Military Affairs' Disaster and Emergency Services (DES) is the lead agency responsible for coordinating disaster and emergency prevention and preparation activities of all departments, agencies, and organizations within the state. DES advises and assists the political subdivisions of the state in executing their disaster and emergency services responsibilities through the development of mutual aid plans and agreements; instituting training and public information programs; mobilization of disaster and emergency services organizations; and ensuring the availability and adequately trained and equipped personnel in time of incident, emergency, or disaster.

Political subdivisions of the state are responsible for local emergency and disaster prevention and preparedness, and coordination of response and recovery. Montana statute requires local first responders be trained in hazardous material incident response in compliance with the Code of Federal Regulations.

There are 381 fire departments in Montana with approximately 10,000 fire fighters, 96 percent of which are volunteers. There are 12 full-salaried fire departments in Montana protecting roughly 347,000 people. There are 336 fully volunteer departments protecting roughly 366,000 people. There are 33 departments with combined salaried and volunteer members protecting roughly 302,000 people.

The Montana Department of Transportation (MDT), Traffic and Safety Bureau is responsible for the oversight of 1,360 highway-rail crossings on 3,368 miles of track in the state, 452 of which have active crossing signals and the rest of which are controlled by passive signage. There are 1,700 private rail crossings in the state and MDT has no statutory authority over these crossings. The MDT Planning Division is responsible for a small loan program supporting rail improvements to enhance rail service to Montana communities and businesses.

Audit Objectives

This performance audit included the following objectives addressing statewide oversight and management of railroad safety:

1. Is the Public Service Commission ensuring rail safety through its inspection programs and statutory responsibilities?
2. Is the Department of Military Affairs' Disaster and Emergency Services executing its statutory role of coordinating emergency management in Montana with respect to rail and HAZMAT incidents?
3. Are there planning, training and equipping systems within state government that ensure all local emergency response agencies can respond to a train derailment with a HAZMAT component?

4. Does Montana Department of Transportation prioritize inspection and maintenance of railroad crossings and does their priority index system take into account, and proactively address, changes to rail traffic?

Audit Scope

This audit focused on three risk areas identified during our assessment. The first area was emergency response planning and capability with respect to derailments and HAZMAT events in both highly populated areas and rural/frontier areas of Montana. The second area included a review of the state's ability to inspect rail activity in Montana. The third area was a review of the safety of highway rail crossings in Montana. Data collection across all subject areas included time frames that encompassed state and federal fiscal years 2013 and 2014. Indian reservations were not included in the scope of this audit.

Public Service Commission

Audit work with respect to the state's ability to inspect rail activity in Montana was largely focused on the administration of the state rail safety program; safety inspections of locomotives and rail cars in rail yards and along rail lines in Montana; and whether that inspection effort was adequate given the ever increasing rail activity in the state.

Montana Disaster and Emergency Services

Audit work with respect to emergency response planning and capability focused on DES support of city and county emergency response organizations and their ability to plan, train, equip and respond to a train derailment with a HAZMAT component at both the state and local levels. We also looked at coordination efforts between federal, state, and local entities; and the railroad companies operating in Montana.

Montana Department of Transportation

Audit work with respect to MDT management of safety and oversight of railroad company maintenance of highway rail crossings focused on reviewing their priority based system for maintenance and upgrade of crossings and verifying data from that system with on the ground observations at the actual crossings.

Audit Methodologies

To accomplish the objectives we completed the following methodologies:

- Conducted multiple interviews with PSC, DES, and MDT staff to review authority, responsibilities, funding, planning, and work prioritization.
- Reviewed state and federal law, regulation, and rules.
- Reviewed state and local emergency planning documents.

- Reviewed state departmental studies, plans, policy, procedure, goals, and objectives.
- Conducted interviews with Federal Railroad Administration (FRA) inspectors and regional administration officials.
- Observed rail safety inspections at six major rail yards.
- Conducted on-site visit of a local rail crossing with MDT staff; rail industry engineering and maintenance staff; and a FRA signal inspector to discuss planning, design, operation, and regulation of advanced railroad preemption crossing systems.
- Reviewed rail industry safety efforts and conducted interviews with personnel from the state's two largest Class I and II railroads.
- Reviewed the State Rail Manager's Association activities and best practices.
- Compiled and analyzed FRA safety data for Montana and the US as a whole.
- Conducted on-site interviews in ten locations in Montana with Local Emergency Planning Committee (LEPC) Chairs, County DES Coordinators, and Fire Chiefs.
- Visited with county commissioners in three counties.
- Conducted an automated survey with all LEPC Chairs and DES Coordinators in the 48 counties with active rail in the jurisdiction.
- Conducted interviews with other states' similar organizations to Montana's DES, MDT, and PSC.

Management Memorandum

A management memorandum is a verbal or written notification to the agency for issues that should be considered by management but do not require a formal agency response. We issued a management memorandum to the PSC regarding an employee safety issue. PSC rail safety inspectors work within close proximity of moving trains in rail yards and sidings. Unlike all other vehicles within the rail yards and sidings, the inspectors' government supplied vehicles were not marked with reflective markings, an agency identifying seal, or flashing hazard lights.

Report Contents

The following pages include chapters detailing our observations, findings, and recommendations.

Chapter II will focus on the PSC and its role in managing railroad safety with respect to:

- Administration of the rail safety program.
- Rail safety inspection capability.

Chapter III will focus on DES and its role in:

- Statewide coordination, planning, and training for responding to rail incidents.
- Local planning, training, and equipping.
- Response to HAZMAT incidents.

Chapter IV will focus on the MDT and its role in managing highway rail crossing safety. We close this chapter with a change to railroad safety priorities the legislature might want to consider.

Chapter II – Public Service Commission

Introduction

As discussed in the report introduction, crude-by-rail transport will continue to exceed the pre-Bakken oil boom. Loading facilities in North Dakota continue to grow and off loading facilities in Washington are also expanding to meet the need both from the Bakken region and other oil rich areas in Canada.

The Public Service Commission (PSC) regulates private, investor-owned natural gas, electric, telephone, water and private sewer companies in Montana. Additionally, it regulates the railroads and certain motor carriers doing business in the state, and oversees natural gas pipeline safety regulations.

The PSC, in partnership with the Federal Railroad Administration (FRA), is responsible for the supervision of the railroads through inspection and enforcement of safety and security measures governed by United States Code. The Commission funds regulation of the railroads through annual fee assessments deposited into a special revenue account to fund the organization's operations.

In order to accomplish the regulation of the railroads, the PSC employs three full-time equivalent (FTE) positions. Two split their time conducting rail safety inspections and responding to motor carrier regulatory issues, roughly 80 percent and 20 percent respectively, covering the entire state. The third FTE provides management oversight of the two inspectors, spending roughly 85 percent of the time managing surface transportation issues and 15 percent on rail safety issues. These positions, and the rail safety program, do not receive general fund support; they are totally funded through railroad regulation fees.

We had one objective in this audit focused on how the PSC ensures rail safety in Montana. Our findings are split into two areas–the administration of the rail safety program and rail safety inspection.

This chapter provides information on legal authority; nationwide rail safety best practices; an assessment of the PSC's administration of rail safety; a review of state safety inspection capability; a comparison with other states and federal inspection capabilities; findings; and recommendations.

Administration of the Rail Safety Program

For this objective, we looked at how the PSC has established and is managing the rail safety program in Montana. We found that beyond ensuring the minimum number of annual inspections are being conducted, the PSC is not actively engaged in railroad safety.

State and Federal Law Provide PSC Authority and Safety Program Responsibilities

During the 2015 Legislative Session, a large portion of Title 69 of the Montana Code Annotated was amended to reflect the Commission's current authority and to repeal those portions of the statute preempted by federal law under the Federal Railroad Safety Act of 1970.

Title 49 United States Code §20106 describes preemption and the "National Uniformity of Regulation." It provides that state laws related to railroad safety be nationally uniform to the extent practicable. States may adopt laws necessary to eliminate or reduce safety hazards as long as they are not incompatible with federal law and do not unreasonably burden interstate commerce.

Section 69-14-111 amended, MCA, provides authority to the PSC for the general supervision of railroads, primarily focused on safety, in concert with its participation with Federal Railroad Administration safety programs.

Federal and State Partnership

Title 49 CFR 212, Subpart B outlines the state and federal roles in state rail safety inspection programs. It states the purpose of the national railroad safety program is to "promote safety in all areas of railroad operations in order to reduce deaths, injuries and damage to property resulting from railroad accidents." This is accomplished through FRA and state inspections to determine rail company compliance with standards, rules and practices.

Those state agencies with jurisdiction under state law can participate in investigative and surveillance activities under federal railroad safety laws and regulations by entering into an agreement with the FRA. The FRA delegates certain specified authority relevant to inspection and surveillance activities only to those meeting FRA training and certification guidelines. In this agreement the state agrees to provide the capability necessary to assure coverage of facilities, equipment and operating practices through planned, routine compliance inspections within the state. The PSC has an active agreement with the FRA.

The FRA reserves exclusive authority to assess penalties and issue orders to the railroads. However, federal law does authorize states to bring action for assessment and collection of a civil penalty in a federal district court if the FRA has not acted on a request for civil penalty assessment made by the state within 60 days of receipt.

Federal law also provides strict training and certification requirements for state rail safety inspectors working in specific tradecrafts. Those tradecrafts include: Track Inspector; Signal and Train Control Inspector; Motive Power & Equipment Inspector; Operating Practices Inspector; Hazardous Materials Inspector; and Highway-Rail Grade Crossing Inspector.

As part of this partnership program with the states, FRA provides laptop computers with wireless network capabilities to the inspectors. They also provide and direct their on-the-job training and certification programs. The FRA provides annual proficiency training, technical oversight and any job-specific testing equipment required to conduct inspection activities.

Association of State Rail Safety Managers Establishes Best Practices

There exists an Association of State Rail Safety Managers whose primary purpose is to support, encourage, develop, and enhance railroad safety. The Association promotes railroad safety by encouraging consistent and uniform application and enforcement of railroad safety regulations and promulgation of effective federal regulations.

The Association's objectives include the exchange of ideas and mutual support among the states; ensuring the interests of state programs are effectively represented regionally and nationally; encouraging the growth of state rail safety programs; and formulating and communicating consensus among the states with the federal government.

The Association of State Rail Safety Manager's Handbook provides that state rail safety programs supplement the FRA's safety programs so the state has a unique opportunity to specifically target a state's safety concerns. It goes on to say, "it is imperative that States establish their own goals and priorities." In order to set goals and priorities, the state first has to conduct a state-specific rail safety risk assessment for which the handbook provides guidance. The FRA allocates its inspection resources using a data driven approach that targets safety concerns for the nation and it may not include areas more important to a given state. The FRA will consider and include state goals and objectives when it determines where inspections capability will be focused. During audit work we found the PSC had not prioritized and conducted a rail safety risk assessment. Additionally, the PSC currently is not an active member of the Association.

Best Practices Include State Rail Safety Work Plans

The Association handbook says the submission date for states to provide their rail safety priorities for the FRA Regional Work Plans is October 1. This allows the FRA region time to consider including state concerns in its annual plan. Montana is part of Region 8 along with Idaho, Oregon, Washington, Wyoming, North Dakota, and South Dakota. FRA regions have considerable discretion in deviating from their annual work plans to address emergency safety concerns not identified in their planning process. Typically, the FRA addresses state issues through regular conference calls with the states within its region. Managers attend these calls in order to provide input into inspection planning as well as being made aware of immediate, discipline-specific safety concerns for the inspectors, and any changes to the annual inspection plan. These conference calls also provide information on training workshops, waivers, and any special inspection activity. During audit work we found the PSC had no active rail safety plan and does not attend the FRA regional conference calls. Additionally, the PSC has not established goals, objectives, or priorities for the State of Montana outside of meeting the FRA minimum requirement of 50 inspections a year.

Some Context for Emergency Planning and Risk Mitigation

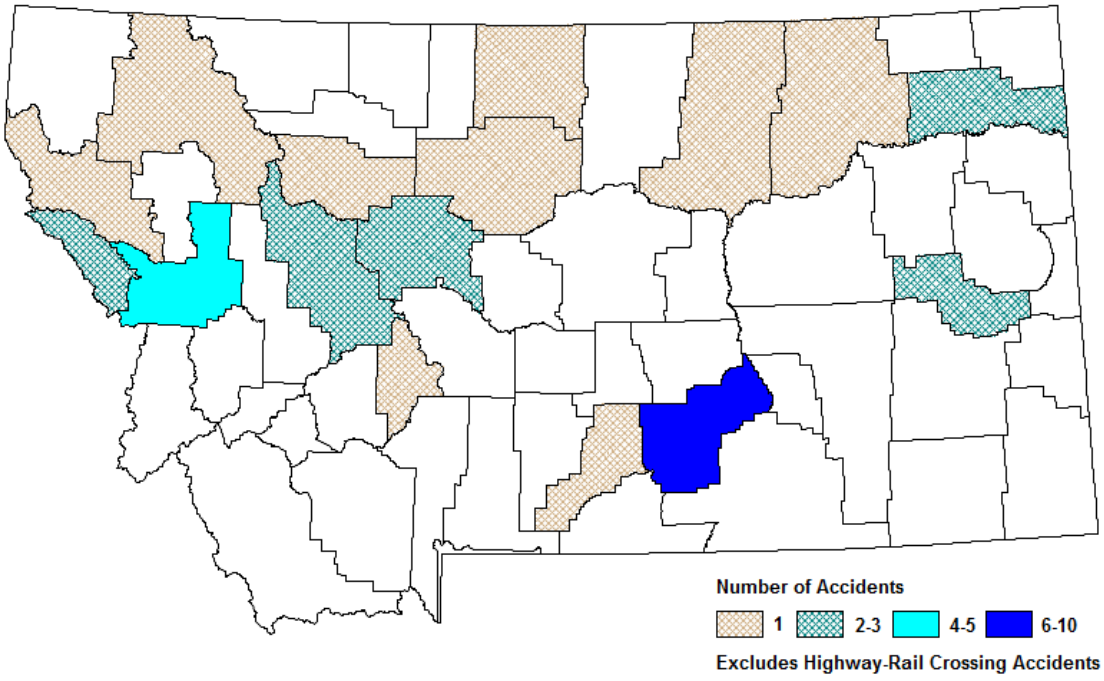
In order to provide some context to the importance of maintaining a rigorous rail safety program and the potential impacts of a railroad hazardous material (HAZMAT) spill, we asked the Montana Department of Environmental Quality (DEQ) to provide some data specific to the dangers of an oil spill in proximity to public water supplies. DEQ provided a preliminary assessment of public water supplies using surface water that are susceptible to railroad accidents. Public Water Supply (PWS) were assigned a preliminary susceptibility rating based primarily on pipeline or railroad proximity to water intakes or infiltration galleries. A “Very High Susceptibility” is assigned to PWSs where railroads are very close to the water intake, typically within a few tenths or a mile to one mile upstream or adjacent to the intake. A “High Susceptibility” rating is assigned to PWSs where railroads are farther upstream, typically beyond one mile and less than ten miles. A “Moderate Susceptibility” rating is assigned to PWSs where railroads are more than ten miles upstream. All totaled, 21 PWSs were impacted by railroads. One PWS provided water to a utility company and the remaining 20 PWSs provide water to cities, towns and districts across the state, some in highly populated areas.

For further context, and as of this writing, the current cost for the response to the oil pipeline spill in Glendive this year was in excess of $162,000, not including the penalties the pipeline company will eventually pay. The 2011 Silvertip pipeline spill cost the pipeline operator $760,390 in cleanup cost reimbursement plus $1.6 million in penalties.

A Snapshot of Montana Rail Accidents

For the period 2010 to 2014 Montana ranked 21st in the nation in train accidents by state with 177 accidents for the reporting period. For that same period, Montana ranked 4th highest in the nation for damage cost per accident. Total damage costs for 2010 to 2014 were $43,559,699 and cost per accident was $246,100 using railroad company provided data. Note that these costs do not include damage to public or private property; the economic impact to local communities; or any costs not covered by the railroad company insurance. From the map below you can see where train accidents occurred in Montana just for calendar year 2014. In 2014 Montana had 31 total accidents with over $10 million in reportable damages.

Figure 2
Montana Train Accident Locations
January 2014 - December 2014



Source: Compiled by Legislative Audit Division from FRA records.

Disaster and Emergency Planning and Mitigation

State law requires Montana Disaster and Emergency Services (DES) to work with other state agencies and local authorities in planning for, preventing, and responding to emergencies. During conversations with neighboring states we identified best practices involving the relationships between rail safety managers similar to Montana's PSC

and state emergency managers similar to Montana's DES. We found that rail safety managers assist the state emergency management agencies in identifying rail safety risks; identifying potential mitigation strategies; assisting with statewide emergency planning; and being part of the emergency management team during rail incidents. Audit work determined no such relationship exists between the PSC and DES. When asked what the PSC's relationship with rail companies and DES was with respect to safety; derailment response planning; railroad priorities; railroad response plans and capabilities; and risk identification and mitigation, PSC staff indicated they were a regulatory agency and not "first responders" so they had no program responsibility relative to planning for or responding to a derailment. When asked to comment on this view, a senior FRA administration official said as a regulatory agency that is why the PSC should be involved with risk assessments and emergency planning. This official said by their very definition, FRA is a regulatory agency and assesses risk and cooperate in emergency planning as part of its agency function. By conducting and coordinating activities, such as a risk assessment and rail planning, PSC could assist DES in carrying out its duties to coordinate, prevent, and prepare for a disaster related to rail, in turn better protecting Montana communities from disaster.

Lack of Engagement is Limiting the Potential of the Rail Safety Program

Aside from ensuring the minimally mandated number of rail safety inspections are being conducted on an annual basis, PSC is not actively engaged, internally or externally with other stakeholders, in rail safety. It has not conducted a rail safety risk assessment for the state, nor does it have goals, objectives, priorities or plans to execute its statutory requirement of regulating rail safety in the state.

RECOMMENDATION #1

We recommend the Public Service Commission actively administer rail safety in Montana to include:

A. *Active involvement in the Association of State Rail Safety Managers to ensure Montana has a voice at the national level.*

B. *Conduct a state rail safety risk assessment; establish rail safety goals and objectives; and develop a rail safety plan for Montana that is reviewed annually with the Federal Railroad Administration.*

C. *Actively engage with Montana Disaster and Emergency Services, and the other state and federal agencies, in emergency planning to ensure the rail safety program is proactively addressing risk in the state.*

Inspection Capability

We looked at PSC rail safety inspection activity to determine if it was adequate given the steady increase in rail traffic in the state. We determined the PSC does not have rail safety inspector coverage to cover the entire state.

Rail Safety State Participation Regulations

The 1970 Railroad Safety Act authorized states to work in partnership with FRA to enforce Federal Safety Regulations. To carry out its responsibilities, throughout the years, the FRA established specialized inspection tradecrafts. Currently, inspectors are specialized in one of five tradecrafts including:

- Track
- Motive Power & Equipment
- Operating Practices
- Signal and Train Control
- Hazardous Materials

FRA Inspector Coverage in Montana

Currently, the FRA employs the following positions to cover Montana rail activity; chief inspector, hazardous materials specialist, Signal and Train Control Inspector, Track Inspector, Motive Power &Equipment (MP&E) Inspector, and Operating Practices Inspector. These individuals work from the main office in Billings. A newly hired FRA MP&E Inspector is now working out of Glendive. While these inspectors cover Montana rail activity, they all have territorial assignments that expand into portions of at least one adjoining state. FRA inspectors from adjoining states also conduct inspections in portions of Montana. Spokane, Washington-based inspectors conduct inspections in the far western portions of Montana and North Dakota-based inspectors conduct inspections in the far eastern portions of Montana. The FRA regional office in Washington has requested an additional highway grade crossing manager to be based in Montana and has added a new HAZMAT inspector who will work in Montana.

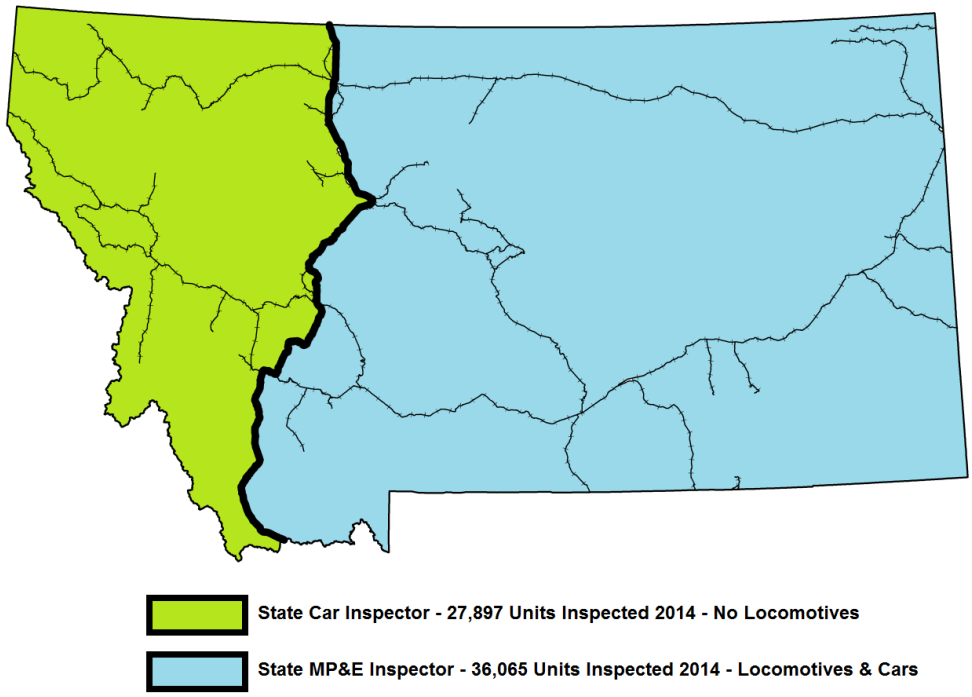
PSC's Inspector Coverage

PSC inspectors are fully funded by the regulatory fees paid by the railroads and other utilities and businesses regulated by PSC. This safety program receives no general fund support. PSC inspectors work approximately 80 percent FTE on rail safety inspections and 20 percent FTE on surface transportation issues, conducting inspections, and responding to complaints on regulated surface transportation companies (limousines,

household goods movers, and garbage haulers). The PSC operations manager indicated spending roughly 15 percent FTE managing the rail safety program.

The PSC employs two rail safety inspectors. One is a certified MP&E Inspector and the other is a car inspector, a sub-tradecraft of MP&E. The MP&E Inspector is based out of Laurel and covers all rail activity from Interstate 15 east to the border with North Dakota. He is certified to conduct independent inspection of railroad equipment for determining compliance with federal law under the following standards areas: locomotive, freight car, safety window glazing, safety appliances, and power brakes. The car inspector is based out of Missoula and covers all rail activity west of Interstate 15 to the Idaho border. This inspector cannot inspect locomotives, but can inspect the standards areas for freight car, safety window glazing, safety appliances, and power brakes.

Figure 3
PSC Inspector Coverage Map



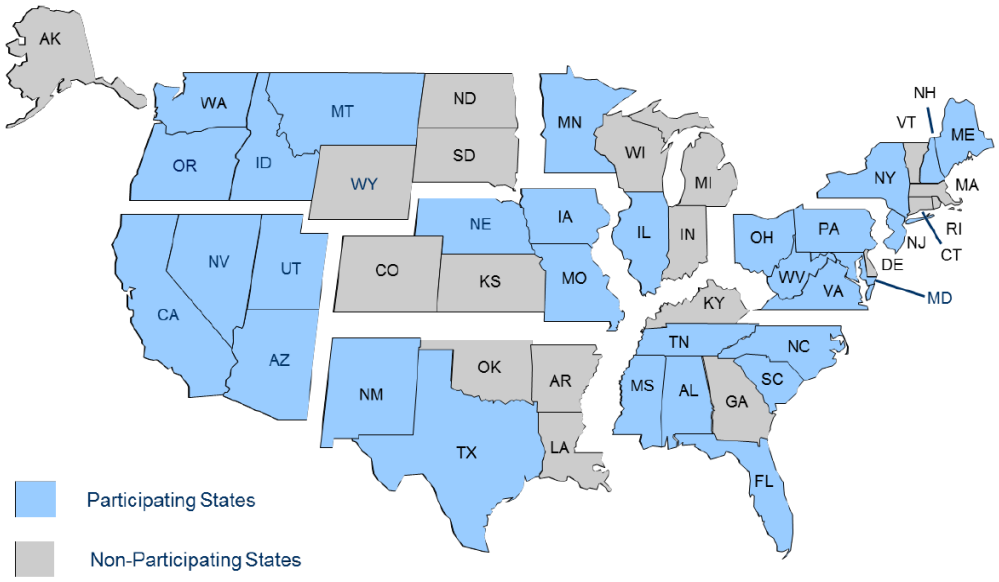
Source: Compiled by the Legislative Audit Division from PSC and FRA data.

Other States' Rail Safety Programs

In 2014, 30 states, including Montana, had rail safety inspection programs. These state programs generally emphasize routine compliance inspections. However, since they are

state inspectors they may undertake additional investigative and surveillance activities consistent with the overall program needs and individual state priorities. These states are represented in the following figure.

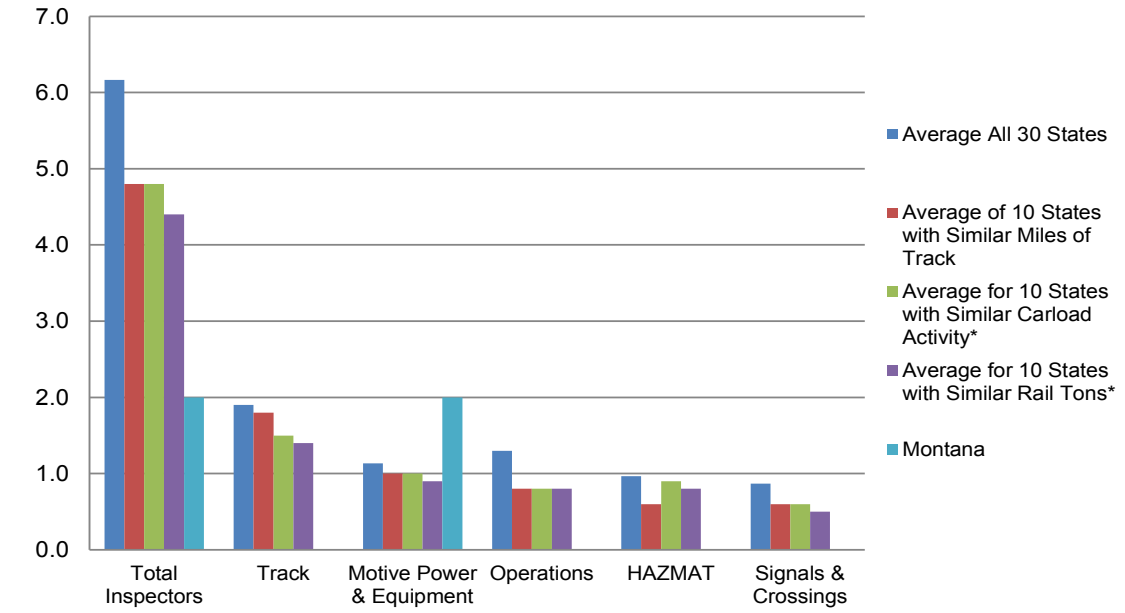
Figure 4
Federal Railroad Administration–2014 State Program Overview



Source: Federal Railroad Administration.

To identify how Montana's rail safety program aligns with the 29 other participating states' programs in terms of state inspectors and assigned tradecrafts, we analyzed data including: FRA data related to 2014 state rail safety participation; 2012 data related to track miles in each state from the American Association of Railroads (AAR); and 2012 rail activity data including carloads and rail tons from AAR. Since states' rail activity varies widely throughout miles of track, rail tons, and rail carloads, we selected the top ten states with the most similar activity to Montana in each area. The results of this analysis can be seen in Figure 5 (see page 16).

Figure 5
Inspectors by Type in State Programs
2014



Source: Compiled by the Legislative Audit Division from FRA and AAR data.

*2012 most recent data available from AAR.

As can be seen in the figure, when looking at all 29 other states' rail safety programs, each program averages one inspector in each tradecraft. Other areas of note include:

- Only 4 states had no Track Inspectors, 3 of these states had less track miles than Montana.
- 15 had no signals inspectors, 12 had no HAZMAT inspectors, and 10 had no operations inspectors.
- 17 had fewer track miles than Montana.
- 9 had fewer train carloads than Montana.

As shown in the figure and through further analysis, Montana appears to be overall low on the total number of inspectors when compared to other state's rail safety programs that average around 4-5 inspectors. Specific tradecraft areas Montana is behind when compared to other states with similar rail activity include: Track, Operating Practices, Hazardous Materials, and Signal and Train Control.

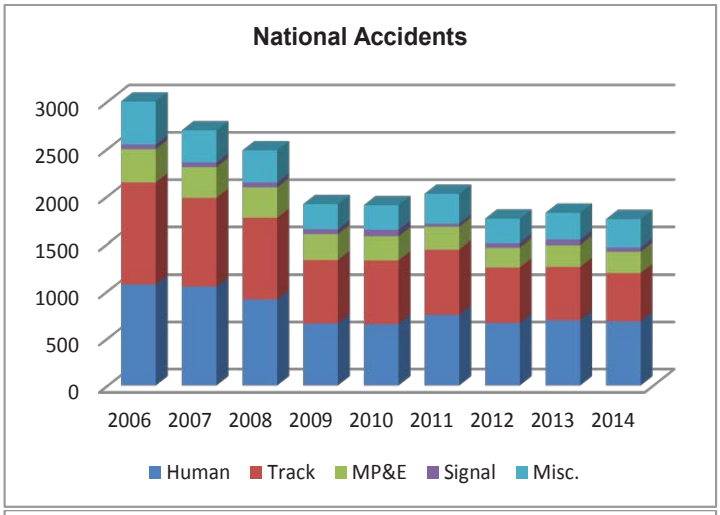
Railroad Accident Statistics Trending Downward Through Multiple Factors

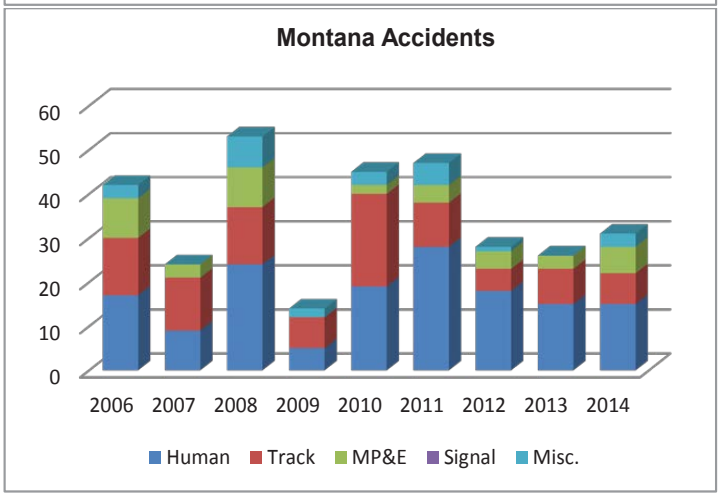
The FRA reports train accidents per million train miles has decreased over the years 1980 to present as the number of rail safety inspections has increased. When looking

at FRA accident data there is a general downward trend in accidents of 41 percent from 2006 to 2014. However, Montana statistics do not necessarily mirror the national trend even though total accidents have decreased over the same period by 26 percent. The FRA data does not report a defined trend in accidents related to a particular type of inspection, rather a nationwide decrease in accidents could be attributed to multiple factors including: Increases in rail safety inspections conducted by FRA and state inspectors; ongoing rule changes instituted by the FRA in other safety areas beyond inspection; and increased safety measures by the railroads.

Using FRA accident statistics we examined the main causes of rail accidents across the nation, which are represented in Figure 6.

Figure 6
National Railroad Accident Statistics by Cause
2006-2014





Source: Compiled by the Legislative Audit Division from FRA data.

Based on the data FRA reports, the accident causes which can be directly linked to and potentially prevented by safety inspection activities include: Track, Signal and Train Control, and MP&E. The following sections discuss regional accident data as well as Montana's inspection capability in these specific tradecrafts.

FRA Region 8 Outlook

FRA Region 8 encompasses Washington, Oregon, Idaho, Montana, Wyoming, North Dakota, and South Dakota. For the period of federal fiscal year 2014 to May 2015, there were 176 highway-rail incidents with 31 fatalities, accounting for 50 percent of all rail-related fatalities. Other railroad accidents for the period in Region 8 included:

- 84 Human Factor caused accidents: Most common cause were general switching rules, speed, and use of switches.
- 58 Track caused accidents: Most common causes were rail, track geometry, switches, and track appliances.
- 40 Motive Power & Equipment caused accidents: Common causes were wheels, locomotives, and axles/journal bearings.
- 24 Miscellaneous & Signal caused accidents: 1 signal related (power switch failure), remainder were caused by environmental (weather related), unusual operating conditions, and other (vandalism and unknown).

The FRA indicated the majority of the above accidents could have been prevented, or the outcome could have been minimized, had an inspector observed the activity or mechanical failure prior to the incident.

Montana Inspections–Track

In six of the past nine years humans were the primary cause of all train accidents, and track issues were the second highest cause of accidents. In those three years where humans were not the primary cause of accidents, track issues were the primary cause. The FRA has one Track Inspector, based out of Billings, conducting the majority of track inspections on 3,200 miles of track within the state. FRA also has a Track Inspector, based out of Spokane, Washington, who conducts some inspections of the far western edge of Montana. The PSC currently has no Track Inspectors to focus on Montana's priorities in this area, while other states with similar rail activity to Montana have an average of 1-2 inspectors.

Montana Inspections–Signal and Train Control

There are 1,360 highway-rail crossings in Montana. Of that number, 452 have active warning signals and some have traffic blocking capability. The FRA has one Signal and Train Control Inspector, based out of Billings, responsible for the majority of

the state and half of Wyoming. As with track inspections, there is another Signal and Train Control Inspector, based out of Spokane, who covers portions of Washington, Idaho, and the far western edge of Montana.

The FRA requires the railroad companies to inspect signals and crossings 12 to 13 times per year, or once every 30 days. The FRA indicated it can inspect roughly 5 percent of those signals and crossings every year. In the past year, two FRA inspectors inspected 501 crossings in multiple states, including Montana. These inspectors are also responsible for investigating accidents, crossing blockages, and congressional complaints. In 2014, Montana's primary FRA inspector found defects in 37 percent of the signals and crossings inspected. The FRA also reported a significant increase in issuing violations for blocked highway-rail crossings. In 2014, this inspector wrote six violations. In the first two months of 2015, the inspector had already written six violations. Currently PSC has no Signal and Train Control Inspector to focus on Montana's priorities, which with the increased rail traffic transiting Montana, could potentially include blocked highway-rail crossings.

Montana Inspections–MP&E

As discussed above, Montana has one MP&E Inspector and one Car Inspector working in concert with the two FRA MP&E Inspectors, one recently hired. FRA inspectors also have inspection responsibilities in adjoining states.

As discussed earlier in this section, the car inspector covers west of I-15 and covers fewer track miles than the MP&E Inspector on the east side of I-15. Additionally, as can be seen in the following table, when compared to the resident FRA MP&E Inspector and nationwide average for all state MP&E Inspectors, the Car Inspector also conducts fewer inspections.

Table 1
MP&E Inspection Statistics for 2014

2014	Inspection Days	Inspection Reports	Defects Identified	Units Inspected	Defect/ Unit Ratio	Average Defects/Days
MT MP&E	162	239	1,453	36,065	4%	9
MT Car Inspectors	103	103	579	27,897	2%	6
FRA MP&E Inspector	174	254	1,597	31,170	5%	9
Nationwide State MP&E Inspector	115	143	935	20,457 (Min. 3,362 Max 41,834)	5%	8

Source: Compiled by the Legislative Audit Division from FRA data.

As seen in the table, not only are there fewer inspections done on the western side of the state, the state inspector assigned that area is not certified to inspect locomotives. Additionally, PSC inspectors only work Monday through Thursday, leaving no state rail safety oversight for three days out of the week. Inspectors are not allowed overtime or compensatory time to conduct inspection activities on their normal days off. Interviews with state and federal rail safety inspectors revealed rail companies could be taking advantage of this absence by stacking trains outside rail yards leading up to Friday and then pushing them through over the weekend. While our analysis identified Montana currently is staffed to a level similar to other states' rail safety programs in the MP&E tradecraft, the PSC, along with its establishment of a rail safety plan, could review MP&E Inspector activity to determine if it is adequately staffed to address the increase in rail activity along the Hi-Line; lack of locomotive inspection west of I-15; and predictability of its current inspection activity.

FRA Enforcement Report

In 2009, the Federal Railroad Administration provided a report to Congress on the relationship of inspections, enforcement, and accidents or incidents. Congress had ordered this report and that it be completed by an independent consultant to evaluate the FRA's use of penalties and enforcement mechanisms. Following are some of the report findings that support the importance of inspection activity:

- The FRA exercises discretion when inspectors identify defects through the course of safety inspections. This discretion ensures the agency calibrates the penalties to achieve an effect proportional to the specific circumstances. Issuing penalties on a proportional basis encourages compliance and the relationship between inspectors and the railroads at the local rail yard level. In other words, every defect does not warrant a penalty and working with the railroads to get "buy in" helps FRA to address systemic safety issues.
- The FRA could not quantify precise impacts to rail safety through penalties but it was able to monitor railroad company reactions to enforcement activity and then adjust intensity and duration of focused safety inspections. Inspector observations from the field led FRA to determine penalties were providing observable improvements on the whole.
- From the 1970s until present, positive change in safety have been observed in terms of reduced accidents. The independent consultant determined, "This dramatic improvement in railroad safety over the past 30 years suggests that FRA would be well advised to continue in the future to pursue the various measures and strategies that have guided its safety program in the past. As the results of this study suggest, it is the cumulative impact of these measures, on supporting and amplifying the other, that makes the difference."

How States Are Adapting to Increased Concern Over Rail Safety

Thirty states have a rail safety program. Of the states that do not, several are in the process of creating a state program (Ex: North Dakota and Wyoming). Note that four of the continental states are very small on the East Coast and Hawaii does not have railroads.

The largest state programs are: California (39 inspectors); Texas (15 inspectors); New York (14 inspectors); and Ohio (14 inspectors). The following states are working with their legislatures to expand their programs based overwhelmingly on the concerns of crude-by-rail safety:

- New York–adding 7 inspectors
- Minnesota–adding 2 inspectors
- Missouri–adding 2 inspectors
- California–budget requested for 7 additional inspectors
- Texas–budget requested for 2 additional inspectors
- North Dakota–requested budget for 3 inspectors and received approval for 2
- Oregon–adding 4 inspectors
- Washington–adding 2 inspectors
- Idaho–adding 1 inspector

These states are funding inspector additions through increasing the taxation rate or total revenues received based on railroad gross intrastate and interstate operating revenues; fees based on track-miles, ton-miles and/or number of railroad crossings; or motor fuel tax. State programs have grown from 12 inspectors in 1975 to 186 in 2015. Thirty-six percent of inspectors work for a state program and 64 percent work for the FRA.

Current Changes to Regional Rail Safety Programs

We spoke with other surrounding states to determine how they manage and staff their rail safety programs. The following sections summarize current developments in some nearby states.

North Dakota: The North Dakota Public Utilities Commission worked with the North Dakota Legislature this year to start a rail safety inspection program, hiring two rail safety inspectors. During our discussions with the Public Utilities chair, she indicated the decision to start a program was not solely based on rail safety statistics. Rather it was based on the major fact crude trains leaving North Dakota had increased

100 percent and trains coming into the state had increased 50 percent. Their view was that when, not if, they had a train incident it was going to cost a lot more money than starting a rail safety program so their intent was to prevent as many incidents as they could. Through discussions with the FRA Administrator, they indicated this was a sound approach and prevention is always more cost-effective than the costs associated with the occurrence of a significant or catastrophic event. Further, with the increase in oil production in Montana and North Dakota, growth in oil train shipments will increase along with the increased growth in coal shipments.

Oregon: Oregon Department of Transportation (ODOT) data indicates the number of derailments has decreased below the target (goal of 42 for 2006 to 2013, and 25 for 2014 to 2015) even as rail traffic increases. ODOT attributes this to the increase in inspector hires and safety inspections. However, there was an 80 percent increase in derailments from 2012 (10) to 2013 (18). ODOT also indicates the number of inspections, proportional to the number of qualified inspectors, also directly affects the number of derailments. The fewer inspections, the more derailments.

ODOT is in the process of hiring additional rail safety inspectors with the goal of having at least two inspectors working in each of the five FRA inspector tradecrafts with an additional third inspector conducting track inspections.

The primary reason for bringing on additional safety inspectors has been the increase in oil-by-rail shipments. FRA in Oregon cannot provide an adequate level of safety inspections with the staff it has working in the state. If approved by its legislature, ODOT will pay for these new inspectors by raising the regulatory fees the railroads pay from 35/100 of 1 percent to ½ of 1 percent.

Idaho: Idaho Public Utilities Commission (commission) has two HAZMAT inspectors that split their time 50/50 between inspecting railroads and oil pipelines. The commission determined the current number of inspectors are not meeting its safety oversight needs. They intend to hire a Track Inspector who will work primarily in the northern part of the state where rail comes through from Montana on its way to Washington. They are choosing to hire a Track Inspector, versus the other FRA trade crafts, because they (and other states) have observed a large majority of rail incidents are caused by bad track sections. Incidents connected to Motive Power & Equipment (MP&E) are the second most likely cause of rail incidents and they plan to eventually hire an MP&E Inspector.

FRA Region 8 Recommendations to Increase Inspectors

The United States Government Accountability Office (GAO) reported in its 2013 report of rail safety that it estimates FRA inspectors have the ability to annually inspect less than 1 percent of the railroad activities covered in regulation. The Region 8 Administrator (administrator) verified the GAO audit observations. The administrator said increased safety issues and incidents with crude-by-rail trains caused FRA to add two HAZMAT Inspectors and one Track Inspector to work in North Dakota. He also said if funding were available, and based on its risk assessments, FRA would add one Track Inspector and one Signal and Train Control Inspector to Montana. The Region 8 Administrator also recommended Montana hire one Track Inspector and one Signal and Train Control Inspector. This is in addition to a recommendation from the FRA Chief Inspector that Montana hire an additional MP&E Inspector. The Chief Inspector further recommended this additional MP&E Inspector be located in an area where the other two state inspectors were not located (potentially along the Hi-Line) or where locomotives are currently not being inspected (Western Montana). This additional inspector would also provide the ability to team with other inspectors for short-term, narrow-focused inspection activities addressing newly identified major safety issues or systemic problems.

Funding

In fiscal year 2014, the PSC received $228,274 from regulated fees, which is likely sufficient to cover costs for two 80 percent FTE rail safety inspectors, the 15 percent FTE Operations Manager, and any other administrative staff support associated with railroads. The process the PSC follows for its biennial budget is not the same as the majority of other state agencies. It provides its proposed budget to the legislature which includes its FTE requirements. Once approved, the Department of Revenue determines the fees regulated companies are assessed to meet that approved budget, assesses those fees and deposits them into the PSC special revenue fund. The PSC receives no general fund support. If the PSC wishes to add more rail safety inspectors, it would request additional special revenue authority for increased personal services.

Another option for funding would be the diversion of general fund dollars from the state railroad car tax. Currently this tax is assessed on all rail car owners' revenue in the state, not just the railroads themselves, and is deposited in the state general fund. The Legislative Fiscal Division estimates revenue for this tax to be close to $4 million in the coming years. A further discussion of this tax can be found in the last chapter of this audit under Legislative Consideration of Changing Railroad Safety Priorities.

The State Rail Safety Inspection Program Needs to Expand

Two state rail safety inspectors currently covering the entire state is not sufficient and the FRA recognizes its inspection staff cannot adequately cover the state. Rail traffic across Montana continues to increase on a steady basis and this increase in traffic is not just Bakken crude, but also coal and other commodities. Other states have come to the conclusion that hiring additional rail safety inspectors is not only the right thing to do in order to prevent rail incidents and ensure the safety of their citizens, it is also considerably cheaper than dealing with rail incidents that could have been prevented through a rigorous rail safety inspection program.

The FRA recommends hiring an additional MP&E Inspector, a Track Inspector, and a Signals and Train Control Inspector. The additional MP&E Inspector could provide coverage where the state MP&E Inspectors are not as active, the Hi-Line for example, or in areas where locomotives are not being inspected on a regular basis, west of Interstate 15. The Track Inspector and the Signals and Train Control Inspectors could work with their FRA Inspector counterparts to provide more complete coverage statewide. As an interim step to providing coverage on more days of the week, the PSC could consider building flexibility into its current inspectors' work schedules to enable inspection activities to extend beyond their normal Monday through Thursday schedule. Our audit work supports the expansion of the state rail safety program in Montana. Estimated costs for additional inspectors, including benefits, vehicle, and equipment, would be roughly $60,000-$80,000 per inspector. These increases could be funded through an increase in the rates the Department of Revenue charges Montana's regulated entities or by using some portion of the funding provided by the state railroad car tax.

RECOMMENDATION #2

We recommend the Public Service Commission increase its railroad safety inspection capability across the state through increased inspection coverage and frequency.

Chapter III – Montana Disaster and Emergency Services

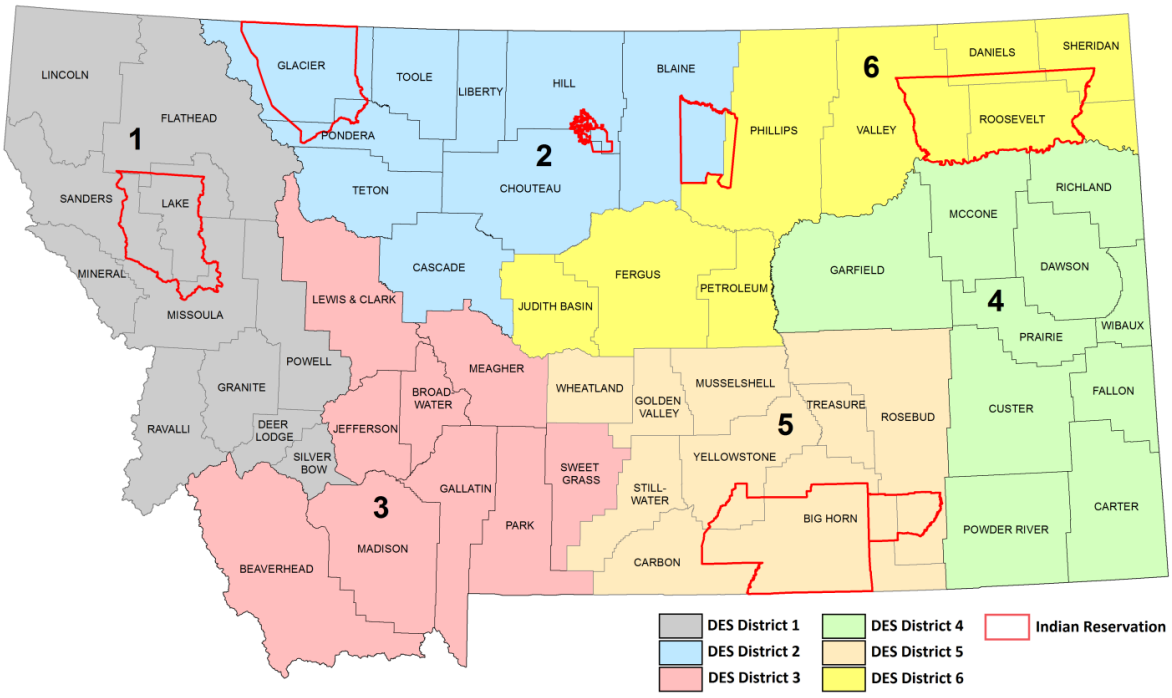
Introduction

Two objectives of this audit focused on Montana Disaster and Emergency Services (DES) and its role in statewide coordination, planning, and training for responding to rail incidents; local government planning, training and equipping; and state and local response to hazardous materials (HAZMAT) incidents.

This chapter addresses legal authority and responsibilities both at the state and local level; a review of state and local planning efforts; DES funding; statewide training efforts; the role of the State Emergency Response Commission (SERC); overview of regional HAZMAT teams; a discussion of city and county capabilities and their dependence on regional HAZMAT teams; railroad company training opportunities and their support to local first responders; and how other states manage the issues Montana faces. This chapter also details our findings and recommendations to improve DES efforts at meeting its responsibilities under law.

DES meets its statutory responsibilities partly through services provided by six different regions, organized by county, which are shown in the Figure 7 (see page 26). Montana's Indian Reservations maintain their own emergency response capabilities and are also shown in the map.

Figure 7
Disaster and Emergency Services Districts



Source: Compiled by the Legislative Audit Division with information provided by DES.

DES has 23 total full-time equivalent (FTE) positions working in the division. Six are field staff working in the six Emergency Services Districts in the state. These members assist counties and local first responders in emergency preparedness; planning; exercising; and federal grants request and management. Two were solely working on federal grants administration; and 12 work to support statewide emergency management; planning; training; and exercises. The remainder of the DES staff work in administration of the division. DES staffing is funded on a roughly 50/50 split of federal grant funds and state general funds.

The SERC, established by state law, is administratively attached to DES and consists of 29 members appointed by the Governor. Members of the commission include representatives from the national guard; departments of state government; first responders; utilities companies; transportation; and local and tribal government. Members serve four-year terms without compensation. The Governor appoints two presiding officers from the appointees; currently serving in that capacity are the DES Administrator and the representative from the Department of Environmental Quality. The Commission's duties and responsibilities are detailed below.

Statewide Planning

Our first objective focused on whether DES is executing its statutory role of coordinating emergency management in Montana with respect to rail and HAZMAT incidents. Based on audit work, we determined improvements could be made in the areas of statewide planning and coordination of emergency management with local jurisdictions.

DES Statutory Responsibilities for Statewide Emergency Planning

State law provides authority and responsibility to DES for statewide emergency planning and coordination of emergency services:

- Coordinate the preparation of the plan and program for disaster and emergency services with the political subdivisions of the state (§10-3-105 (4) (a), MCA).
- Coordinate disaster and emergency prevention and preparation activities of all departments, agencies, and organizations within the state (§10-3-105 (4) (b), MCA).
- Advise and assist the political subdivisions of the state in executing their disaster and emergency services responsibilities (§10-3-105 (4)(c), MCA).
- Periodically review local and interjurisdictional plans and programs for disaster and emergency services (§10-3-105 (4)(f), MCA).
- Develop or assist in the development of mutual aid plans and agreements between the federal government, other states, tribal governments, Canada, and among the political subdivisions of the state (§10-3-105 (4)(g), MCA).
- Plan and make arrangements for the availability and use of any private facilities, services, and property, and, if necessary and in fact used, provide payment for use under terms and conditions agreed upon (§10-3-105 (4)(h), MCA).

Montana Emergency Response Framework

The Montana Emergency Response Framework (MERF) was established by a letter of promulgation, issued by the Governor in October 2012, pursuant to authority in state law. This letter directed all state departments, entities, and other instrumentalities of state government to cooperate fully with each other and the DES in the execution of the MERF. The Governor directed each agency to participate in exercises coordinated by DES, and requested department directors to continue to review their role and responsibilities in accordance with the MERF to assure a prompt and coordinated response to all incidents, emergencies, and disasters. The letter further stated that Montana DES will be responsible for updating the plan, managing the distribution, and assisting the lead and support agencies in coordinating the operational plan development.

In 2012, DES published the MERF. According to the document, *"The purpose of the MERF is to identify the roles, responsibilities and actions of state government during times of emergency or disaster. The reason to characterize state activities during such times is to provide a consistent structure for seamlessly coordinating, integrating and administering the emergency operations plans and related programs of local, tribal, state and federal governments, participating private agencies, private sector contributors and nongovernmental organizations. The plan illustrates the state's role in efforts to prevent, protect from, mitigate, respond to and recover from the effects of all-hazard incidents regardless of cause, size, location or complexity."*

The Emergency Support Functions (ESF) Annexes of the MERF cover 15 categories commonly used to organize resources and capabilities that support an all-hazards plan (e.g. Transportation, Communications, etc.). The Federal Emergency Management Agency (FEMA) Comprehensive Preparedness Guide (CPG) provides that these annexes *"contain detailed descriptions of the methods that government agencies and departments follow for critical operational functions during emergency operations."* State agencies and departments are designated owners of these annexes based on their authority and resources.

After interviews with DES staff and review of planning documents, we determined the MERF is not complete. As well, the MERF does not meet FEMA CPG standards because all of the ESFs have not been completed. Table 2 (see page 29) indicates the ESF number, its title, the responsible agency and status, provided by DES, during the course of our audit work:

Table 2
Emergency Support Function Completion Status

ESF #	Title	Lead Department	Status
1	Transportation	Montana Department of Transportation	Not Complete
2	Communications	Department of Administration	Not Started
3	Public Works and Engineering	Montana Department of Transportation	Working Draft
4	Firefighting	Department of Natural Resources and Conservation	Working Draft
5	Emergency Management	Disaster and Emergency Services	Not Complete
6	Mass Care, Emergency Assistance, Housing and Human Services	Department of Public Health and Human Services	Complete and Updated
7	Logistics Management and Resource Support	Disaster and Emergency Services	Not Complete
8	Public Health and Medical Services	Department of Public Health and Human Services	Complete and Updated
9	Search and Rescue	Disaster and Emergency Services	Not Complete
10	Oil and Hazardous Materials Response	Department of Environmental Quality	Working Draft
11	Agriculture and Natural Resources	Department of Livestock	Working Draft
12	Energy	Department of Environmental Quality	Working Draft
13	Public Safety and Security	Department of Justice	Not Started
14	Long-Term Community Recovery	No Longer an ESF. Recovery subjects have been added to each of the other ESFs.	N/A
15	External Affairs	Governor's Office	Not Complete

Source: Compiled by Legislative Audit Division from information provided by DES.

Not Started = Department has not provided anything to DES.

Not Complete = Some work done on SOPs and general document.

Working Draft = Department and DES have working draft documents.

Complete & Updated = Department has had the ESF complete long enough to have had multiple updates.

Incomplete Statewide Plan Causes Gaps in Local Planning

County level Emergency Operations Plans (EOP) are generally written by the county DES coordinator in coordination with the Local Emergency Planning Committee members, and essentially do at the local level what the MERF does at the state level. All of the plans we reviewed during audit field work revealed they either met or exceeded FEMA CPG standards to the extent they could plan on local resources. However, because local plans could not tie into the MERF, with respect to ESFs, these plans were stand-alone and not fully coordinated with the state plan. As a result of this lack

of connectedness, local authorities and DES "recreate the wheel" whenever there is a larger incident requiring assistance from the departments of state government. Through interviews and site visits, we did not identify any cases where the departments did not assist when requested. However, local emergency planning authorities indicated it was difficult for them to know what kinds or levels of support to expect in the event of an emergency without operational guidelines or established levels of service.

Why Are the Emergency Support Functions Not Complete?

When discussing the completion of the ESFs with DES staff, they indicated some of the responsible departments have not taken an active role in developing the ESFs within their span of control. DES also indicated some departments have said they are not resourced to complete the ESFs due to lack of personnel or time. The Governor's letter of promulgation directed the departments to assist DES in the full development of the MERF; however, some departments have not done so.

During our conversations with DES staff there was some question as to whether the promulgation letter, signed by the previous governor, was still valid with respect to the authority it gave DES. Through later discussions with DES and the Governor's office we verified the letter was still valid and gave DES the necessary authority to complete all ESFs. In addition to the statute sections mentioned above, Montana law requires DES to *"direct emergency response and disaster preparation activities as authorized by the governor."* Statute also requires DES to *"assume any additional authority, duties, and responsibilities as may be prescribed by the governor."* Through audit work we verified that DES has always had the authority to direct the departments to complete their portions of the MERF; therefore, to better meet its statutory responsibilities, DES should prioritize and ensure the MERF is a complete document.

Completion of the Statewide Plan Should Occur

Based on our audit work we determined the MERF is currently not a complete and usable plan either by DES, the departments, or the political subdivisions of the state (counties, cities and first responders). Additionally, DES has not established an ongoing review and update to the plan. Since the MERF, complete with ESFs, is a significant living document, it should always be going through a process of improvement as new risks are identified, new technologies are identified, and capabilities are degraded or improved over time. Statute and executive directive provide DES the requisite authority to complete and update the plan and coordinate its execution across all departments within state government, ensuring timely and coordinated responses to incidents in the state. In the event of a train derailment with subsequent HAZMAT spill and fire, the lack of a solid plan complete with specific levels of service local communities can depend on is unclear. Local communities do not have the capacity to deal with this

type of emergency and depend totally on mutual aid from surrounding jurisdictions and support from every department in state government.

RECOMMENDATION #3

We recommend the Department of Military Affairs complete all Emergency Support Functions and set a cyclical update process for the Montana Emergency Response Framework and the annexes.

Coordination of Planning, Training, and Equipping Across the State

Our second objective focused on whether there are planning, training, and equipping systems within state government that ensure emergency response agencies can respond to a train derailment with a HAZMAT component.

We determined DES is not meeting all of its statutory responsibilities in coordinating emergency management with respect to rail and HAZMAT incidents because it does not have a system in place to determine statewide response capability at the local or county level. Since there is no system in place to identify lack of capability at the local level, DES has no method to focus resources where they are most needed. The end result is that some local first responder agencies are not operating in accordance with statute regarding HAZMAT training.

DES Statutory Responsibility Related to Statewide Coordination

State law provides authority and responsibility to DES for emergency prevention, preparedness, assistance and coordination. Specifically, state law requires DES to:

- Coordinate disaster and emergency prevention and preparation activities of all departments, agencies, and organizations within the state (§10-3-105 (4)(b), MCA).
- Advise and assist the political subdivisions of this state in executing their disaster and emergency services responsibilities (§10-3-105 (4)(c), MCA).
- Make surveys of industries, resources, and facilities within the state, both public and private, as are necessary to carry out the purposes of the statute pertaining to DES responsibilities and authority (§10-3-105 (4)(e), MCA).
- Institute training and public information programs and take all other preparatory steps, including the partial or full mobilization of disaster and emergency services organizations in advance of an actual incident,

emergency, or disaster, to ensure the availability and adequately trained and equipped personnel in time of an incident, emergency or disaster (§10-3-105 (4)(i), MCA).

State law also has requirements for the political subdivisions of the state by requiring the governing body of each incorporated city and county to designate the local response authority for incidents occurring within its jurisdiction. Additionally, the local emergency response authority members, primarily firefighters, must be trained in hazardous material incident response in compliance with 29 CFR 1910.120(q). This Code of Federal Regulation will be discussed later in this report.

Local Planning Could Be Improved

As discussed previously, county level Emergency Operations Plans (EOP) essentially do at the local level what the MERF does at the state level. Of the eight counties we visited, six provided plans that either met or exceeded FEMA CPG standards. However, because local plans could not tie into the MERF, with respect to ESFs, these plans were stand-alone and not fully coordinated with the state plan. DES staff indicated that all county EOPs were initially developed by a contractor through FEMA grant funding. DES regional representatives assist the counties as they develop, review, and exercise their plans.

During the course of this audit, we conducted an online survey of county Local Emergency Planning Committee Chairs (LEPC Chairs) and county Disaster & Emergency Services (county DES Coordinators), who had active rail running through their jurisdictions. These county coordinators should not be confused with Montana DES regional coordinators. We had 34 total responders and received at least one response from 29 of the 48 counties with active rail. In the response data below, in some cases both the LEPC chair and the county DES Coordinator could have answered a question, thereby increasing percentages.

Responses from our survey to LEPC Chairs and county DES Coordinators revealed the majority have an all-hazards plan that addresses a rail incident with a HAZMAT component. Specifically:

- 97 percent had a county all-hazards plan.
- 48 percent indicated their plan addressed a rail incident with a HAZMAT component as a combined annex to their plan; 29 percent addressed it as a separate annex to their plan; and 23 percent did not address this type of incident.
- Roughly half of the respondents indicated they had exercised some portion of their plan either through a table top exercise or full scale exercise.
- All respondents indicated they had reviewed their plan in a period between annually and every five years.

While the counties we visited had some level of all-hazards planning product, DES does not have a system in place to periodically review those plans to ensure they all consistently address newly identified risk areas or how local plans dovetail with the MERF and the associated ESFs. Without a review process in place, DES is unable to meet its Title 10 requirements to coordinate statewide planning.

Hazardous Materials Training

As discussed above, Montana statute requires local responders to be trained according to 29 CFR 1910.120(q), which defines the HAZMAT training necessary for first responders and is based on the duties and functions performed by the individual first responder. The first three levels of HAZMAT training are important for this discussion.

The first level of training is **First Responder Awareness**. This level of training is for individuals likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response by notifying the proper authorities of a release. They are to take no further action beyond notifying the authorities of a release. Standalone Awareness level training typically takes eight hours.

The second level of training is **First Responder Operations**. This level of training is for individuals who respond to a release or potential release of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. This level of training is an eight-hour requirement, in addition to meeting the Awareness level training requirements. This level of training is the minimum requirement recommended for all first responders by the Montana Fire Service Training School. First responders with this level of training must:

- Know basic hazard and risk assessment techniques.
- Know how to select and use proper personal protective equipment (PPE).
- Have an understanding of basic HAZMAT terms.
- Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and PPE available.
- Know how to implement basic decontamination procedures.
- Have an understanding of the relevant standard operating procedures and termination procedures.

The third level of training is **Hazardous Materials Technician**. Hazardous materials technicians respond to releases or potential releases in order to stop the release. Montana regional HAZMAT teams are staffed with HAZMAT technicians. They take a more aggressive role than first responders at the Operations level because they approach the point of release in order to plug, patch, or otherwise stop the release of a hazardous substance. Hazardous materials technicians receive at least 24 hours of training equal to the Operations level in addition to the following:

- Know how to implement an emergency response plan.
- Know the classification, identification, and verification of materials using field instruments and equipment.
- Be able to function within an assigned role in the Incident Command System.
- Know how to select and use proper specialized chemical PPE.
- Understand hazard and risk assessment techniques.
- Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and PPE available.
- Understand and implement decontamination procedures.
- Understand termination procedures.
- Understand basic chemical and toxicological terminology and behavior.

DES Provided Training

During 2014, DES provided or assisted with a total of 60 training events with 1,507 personnel trained. Thirty-nine of these courses were funded directly through DES with state and federal dollars with 893 attending. Twenty-one of these courses were supported by DES and funded by some other source, typically by federal grant, with 614 attending. These courses covered subject areas such as all hazards incident command and incident management; response to weapons of mass destruction; emergency communications and dispatching; and emergency operations center management.

Montana State University Fire Services Training School

The Fire Services Training School (FSTS) is the state level agency charged with providing professional development for community fire and rescue services. For administrative purposes, the FSTS is attached to the Extension Service of Montana State University. Its mission is to build capacity in local governments for protecting the life safety of citizens, their property, the tax base and infrastructure from harm caused by unwanted fires, accidents, injuries, hazardous materials incidents, and other emergencies. In 2014, the FSTS provided 26 HAZMAT Awareness classes serving 359 students; 17 HAZMAT Operations classes serving 181 students; and 4 advanced

level HAZMAT training classes serving 87 students. This advanced level training did not equate to HAZMAT Technician level qualification, rather it provided advanced skills to both Operations level and Technician level qualified first responders.

Railroad Company Training

In 2014, Montana's largest Class I railroad operator sponsored 714 first responders to the Security and Emergency Response Training Center (SERTC) Crude-by-Rail class in Pueblo, Colorado with 20 coming from Montana. The railroad company will sponsor 500 responders to the class in 2015, and at the time of our field work interviews, nine Montana first responders were already signed up for the course. Additionally, this railroad company conducted 21 of its HAZMAT community training classes at nine locations in Montana with 351 responders attending. The company also teaches a "Railroad 101" course at the Montana Law Enforcement Academy for every academy class. This course is centered on ensuring law enforcement officers can remain safe while working around trains and train incidents. Another resource also provided is the "Rail Safety for Emergency Responders" course that covers the course content in the "Railroad 101" along with some fire department specific training such as how to turn the power off to locomotives, set manual handbrakes, rescue someone from a locomotive, etc. This course is provided to any fire department in Montana upon request however they could not provide the number of courses they had completed in 2014.

In 2014, the state's main Class II railroad trained approximately 150 first responders across its rail line service area. Courses were provided in seven counties along their rail lines. Through a joint effort with the Class I railroad discussed above, this company also recommends responders from the four regional HAZMAT teams that service its line areas. Last year at least one member from each team attended and the same number are scheduled to attend this year.

Lack of Training Execution at Local Level Is Widespread

Since DES currently does not have information regarding the training levels of local emergency responders, our survey to LEPC Chairs and county DES Coordinators asked if they tracked the number of fire department personnel who have HAZMAT training; 32 percent of survey respondents did and 68 percent did not. When asked if they could provide specific numbers of HAZMAT trained first responders:

- Respondents answering for ten counties and two cities were able to provide information on the level of HAZMAT training qualification from the bare minimum level of HAZMAT Awareness, to HAZMAT Operations, up to HAZMAT Technician and HAZMAT Incident Command at the fire department level.

- One county indicated there were no HAZMAT-trained first responders in the county.
- Thirteen respondents were unable to provide the HAZMAT training certification in any of their fire departments.
- Using a provided list, respondents were asked to indicate their challenges with responding to a derailment with HAZMAT. Out of the 28 responses the top three challenges were Equipment (68 percent), Training (79 percent), and Emergency Response Exercises (68 percent).

On-site interviews with LEPC Chairs, county DES Coordinators, and Fire Chiefs revealed rural departments are primarily made up of volunteer firefighters who do not have the training and equipment necessary to adequately respond to a HAZMAT event. Unlike law enforcement officers and Emergency Medical Technicians, there are no statutory minimum training standards set for fire fighters in the state. Volunteers have little time for training during a given year and training they do attend is focused on skills necessary to respond to the majority of their calls–emergency medical assistance and structure fires. To further compound the training issue, volunteer departments are experiencing a "graying" of the department as older volunteers leave the fire service and all departments continue to experience difficulty in getting local residents to volunteer to be firefighters. Departmental and county plans generally consist of forming a perimeter around an incident to preclude people from entering the danger area; evacuate those within that perimeter within their capability; and request support through DES for a regional HAZMAT team. Because the departments do not have firefighters with the appropriate training and equipment, rural departments cannot form a regional HAZMAT team as is done in the more urban centers of Billings, Bozeman, Helena, Missoula, Great Falls, and Kalispell. If DES had a system to track individual fire department capability, it could potentially direct efforts on improving capability by focused training either at the department or region level. However, DES cannot do this in a vacuum. City and county leadership will need to partner with DES to ensure first responders are getting the level of training necessary to protect themselves and the community.

Individual Firefighter Equipment Is Limited Statewide

Adequate structural firefighter personal protective equipment (PPE) includes firefighter helmet, coat, pants, and self-contained breathing apparatus (SCBA). When firefighters do not have this equipment, it limits their defensive capabilities to a HAZMAT incident and widens their reliance on regional HAZMAT teams. Since DES currently does not have a system in place to identify how many firefighters in the state have the necessary equipment, we obtained anecdotal information from the Montana Fire Service Training School. They estimated the fire departments in the following regions have reasonably compliant structural PPE, including SCBA.

- Northwest Montana: 65 percent
- South Central Montana: 72 percent
- Western Montana: 70 percent
- North Central Montana: 50 percent
- Northeast Montana: 25 percent
- Eastern Montana: 50 percent

Without a system in place to track firefighter PPE capability at the individual firefighter level, DES is unable to take advantage of federal grant opportunities that could provide the necessary equipment. Local government should also be responsible for providing the appropriate information to DES as well as taking on some of the burden of providing this necessary equipment to the firefighters serving in their communities. Lack of appropriate PPE impacts first responder safety in ways far more extensive than just dealing with a train derailment with a HAZMAT spill. Without this basic, individual equipment, firefighters cannot safely respond to house fires, vehicle fires, overturned trucks with hazardous materials, or any other emergency response that puts firefighters in imminent danger of injury.

How Some States Are Solving Similar Problems

Idaho: Idaho's DES equivalent is the Idaho Bureau of Homeland Security (BHS). Rural fire departments in Idaho suffer from the same problems as Montana: Lack of training, lack of volunteers, and lack of equipment. Local departments rely heavily or totally on the state-sponsored regional HAZMAT teams. BHS has six area field office representatives in addition to four exercise and training specialists. BHS appears to have greater success than Montana DES does in getting volunteer firefighters to attend training. Part of this is due to the state Fire Chief's Association adopting National Fire Protection Association (NFPA) Fire Fighter I and II certification along with getting all firefighters trained to at least the HAZMAT Operations level. They provide training at night, on weekends and split-sessions versus only conducting training classes during normal business hours. With the appropriate training and equipment, fire departments are now responding to smaller scale HAZMAT incidents on their own without the need to deploy a regional HAZMAT team. BHS indicated evidence of this increase in training and capability has been the decrease in calls for regional HAZMAT teams from roughly 350 per year down to 208 per year over the past few years. BHS and the counties have a strong, active relationship with the rail companies in planning and training for rail incidents. Rail companies, and oil pipeline companies, have HAZMAT equipment caches in several locations. They allow fire departments to use equipment and supplies on a use-and-replace basis.

North Dakota: North Dakota Disaster and Emergency Services has four full-time regional representatives that act as a conduit between the counties and DES. They assist counties with planning, grant requests, grant management, training, and exercises. North Dakota rural communities do not have the appropriate equipment to respond to a HAZMAT event and are totally dependent on the state's regional HAZMAT teams. Unlike Montana, where rural departments do not have enough HAZMAT-trained firefighters, most departments in North Dakota have HAZMAT-certified firefighters. Regional HAZMAT teams are located in the state's four large cities, known as "Anchor Communities." DES coordinates and pays for first responder training conducted in these Anchor Communities. The state also pays mileage and travel costs to attend training. The railroads attend county level meetings and support local departments with training.

Washington: Faced with the same issues Montana has now with untrained and under-equipped first responders, the Washington State Emergency Management Division (EMD) conducted a survey of local and tribal planning and fire districts on the readiness of local jurisdictions to respond to a crude-by-rail incident. The EMD reported its findings and actionable recommendations to the legislature in 2014. It found the following:

- Over half of respondents believed they were not sufficiently trained and lacked resources to respond to a train derailment accompanied by a fire.
- Fire departments across the state lacked appropriate firefighting equipment to contain and extinguish a crude oil fire.
- The vast majority of firefighters were not trained to the HAZMAT Technician level.
- Roughly one-third of fire departments had access to a HAZMAT team capable of responding to a major HAZMAT event.

The recommendations from the EMD legislative report particular to this area included:

- Enhancing and providing for a continuous supply of oil spill response equipment and local first responder firefighting equipment through a Department of Ecology grant process. Funding, staffing to administer the program, maintenance of existing equipment and first responder training were estimated at 4.6 FTE and $4.6 million.
- It also recommended the Washington Office of Financial Management work with the state fire marshal to develop ongoing funding options with the legislature to provide statewide training. Additionally, the state fire marshal would work with the railroad industry to expand existing training efforts directed at crude-by-rail HAZMAT incidents. The state fire marshal would also review and establish specific tank car training needs statewide and implement a training program for first responders.

Montana DES Is Not Tracking First Responder Capability at Regional or Local Levels

DES does not track fire department or county level response capability. A previous attempt by DES to determine capability at the county level was met with negative results. DES staff indicated fire departments and county emergency planners were unwilling to provide information regarding their first responder equipment or training capabilities because statute does not require reporting capability to the state. DES indicated local and county governments also did not want to be rated on some sort of capability scale such as "Red," "Amber," or "Green." Based on interviews, this lack of desire to have capability judged and rated could be linked to the fear of rising home and business insurance rates if that capability was made public.

Montana law does not require the political subdivisions of the state to report first responder capability to DES. Because DES is unable to determine capability at the local level, it is unable to coordinate training and equipment strategies that address overall statewide risk, or focus specific efforts on regional or local risk areas. Because of this, local agencies address risk locally and apply limited resources to areas they believe are at higher risk.

Some Assistance Mechanisms Are in Place but Not Being Maximized

There are planning and training systems within state government to ensure local emergency response agencies can respond to a train derailment with a HAZMAT component, but not all counties are taking full advantage of these systems. Counties are not operating in accordance with statute and they are putting first responders at risk because first responders are not properly trained or equipped to respond to hazardous materials incidents. Outside of DES assistance to counties in applying for federal grants, there are no systems in place statewide to identify and address risk or provide all first responder agencies with adequate HAZMAT response equipment or basic PPE. A bare minimum system would include a requirement for fire departments to report manning, training, and equipment capabilities to DES on an annual basis. DES could then address capability gaps at the local, regional, and statewide levels.

RECOMMENDATION #4

We recommend Department of Military Affairs:

A. *Establish a system for determining local jurisdiction capability statewide in order to address capability limitations at the local, county, and regional level.*

B. *Seek statutory authority that supports a system whereby local governments report local jurisdiction capability to Disaster and Emergency Services on an annual basis.*

Northeastern Montana Response to HAZMAT Events

Using both Objectives 1 and 2, we looked at HAZMAT response capability at the regional and local levels. We determined a substantial portion of the state does not have ready access to HAZMAT incident response capability provided by regional HAZMAT teams. The primary cause is the lack of trained and equipped firefighters capable of forming a HAZMAT team. Additionally, unlike the cities that host regional HAZMAT teams, portions of the eastern and northeastern parts of the state do not have full-time, salaried fire departments capable of hosting a regional team.

DES Statutory Authority to Ensure Statewide Response Capability

State law provides authority and responsibility to prevent and prepare for emergency events, assess and coordinate local capability, and institute training. Specifically, Title 10 requires DES to:

- Coordinate disaster and emergency prevention and preparation activities of all departments, agencies and organizations within the state (§10-3-105 (4)(b), MCA).
- Advise and assist the political subdivisions of the state in executing their disaster and emergency services responsibilities (§10-3-105 (4)(c), MCA).
- Make recommendations on the formation of interjurisdictional disaster and emergency services areas when individual political subdivisions are unable to fully and adequately mount an effective local program because of limitations of funding, personnel, or other reasons (§10-3-105 (4)(d), MCA).
- Make surveys of industries, resources, and facilities within the state, both public and private, as are necessary to carry out the purposes of the above statute (§10-3-105 (4)(e), MCA).
- Develop or assist in the development of mutual aid plans and agreements between the federal government, other states, tribal governments, and

Canada and among the political subdivisions of this state (§10-3-105 (4)(g), MCA).

- Plan and make arrangements for the availability and use of any private facilities, services, and property and, if necessary and in fact used, provide for payment for use under terms and conditions agreed upon (§10-3-105 (4)(h), MCA).
- Institute training and public information programs and take all other preparatory steps, including the partial or full mobilization of disaster and emergency services organizations in advance of an actual incident, emergency, or disaster, to ensure the availability and adequately trained and equipped personnel in time of an incident, emergency or disaster (§10-3-105 (4)(i), MCA).

Montana statute (§10-3-1208 MCA) also has requirements for **political subdivisions**.

1. The governing body of each incorporated city and county shall designate the local emergency response authority for incidents that occur within its jurisdiction.
2. Local emergency response authority members must be trained in hazardous material incident response in compliance with 29 CFR 1910.120(q), as amended.
3. An incorporated city may, with the mutual consent of the county, designate the county as its local emergency response authority and participate in the local emergency operations plan for incident response.

State Emergency Response Commission (SERC)

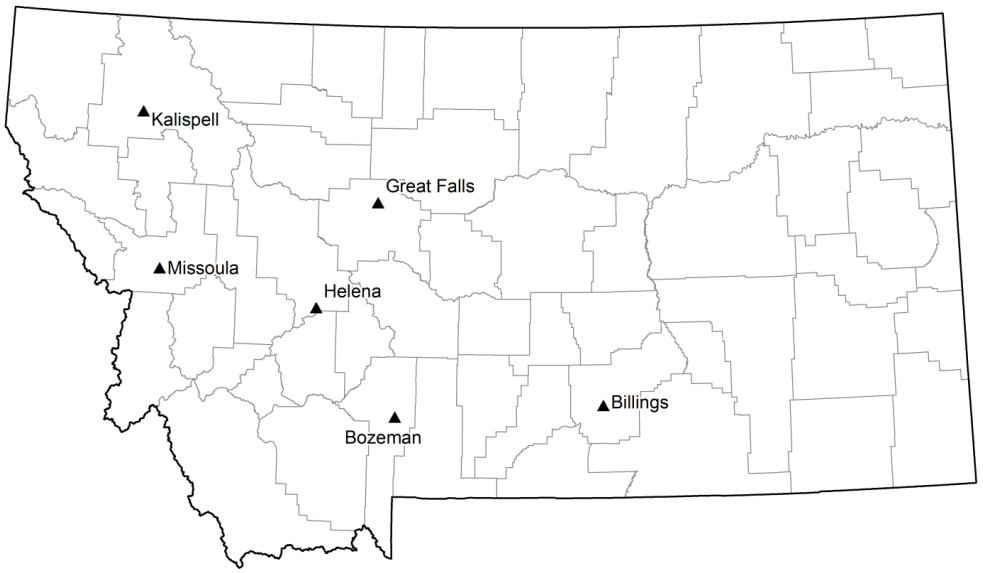
State law provides the SERC's responsibilities and considerations relative to HAZMAT incident planning and response capability including:

- Create and implement a state hazardous material incident response team to respond to incidents.
- Enter into written agreements with equipment or services providers.
- Direct the state HAZMAT team be available and respond, when requested by a local emergency response authority.
- Contract with persons to meet state emergency response needs for the HAZMAT teams.
- Advise, consult, cooperate, and enter into agreements with agencies of the state and federal government, other states, tribal governments, and other persons concerned with emergency response.
- Prepare, coordinate, implement, and update a plan that coordinates state and local emergency authorities to respond to incidents within the state.

Regional HAZMAT Teams and Deployment

There are six regional HAZMAT teams providing HAZMAT incident response for the entire state, the locations of which are shown in Figure 8.

Figure 8
Regional HAZMAT Team Locations



Source: Compiled by Legislative Audit Division with information provided by DES.

The hosting fire departments and designation for each regional team are as follows:

- Billings Regional HAZMAT Team is hosted by the Billings Fire Department and is the primary HAZMAT team for Eastern Montana.
- Bozeman Regional HAZMAT Team is hosted by the Bozeman Fire Department and is the primary team for South Central Montana.
- Great Falls Regional HAZMAT Team is hosted by the Great Falls Fire Department and is the primary team for North Central Montana.
- Helena Regional HAZMAT Team is hosted by the Helena Fire Department and is the primary team for Central Montana including the State Capital.
- Kalispell Regional HAZMAT Team is hosted by the Kalispell Fire Department and is the primary team for North West Montana.
- Missoula Regional HAZMAT Team is hosted by the Missoula Rural Fire District and is the primary team for South West Montana.

The primary role for these teams is to *respond, stabilize, contain* and *render safe* a HAZMAT event. However, they do not conduct cleanup. All team members are certified HAZMAT Technician. The size of the team needed to deploy depends on

the incident at hand. The individual regional teams have between 16 and 47 members certified to the Technician level.

DES staff indicated each of the teams has a truck and trailer with all the necessary equipment for the team to respond to a HAZMAT incident. Deployment of a team requires the local emergency response authority to contact the 24-hour DES duty officer to request assistance. During that call, DES will conference in a regional HAZMAT team member to discuss the situation and what the local authority needs. Once it determines the deployment requirement, DES contacts a representative from the Governor's office who has the final decision authority to deploy the team. Once that approval is made, one or two members of a regional HAZMAT team will immediately deploy to the incident location to better assess the response requirement. While they are traveling to the incident site, the remainder of the team is readying its equipment to deploy. Once assembled with the appropriate equipment, they deploy to the incident site. Arrival windows for the full HAZMAT team are generally one hour after notification plus travel time to the incident site. Obviously, arrival time windows grow larger as the distance from the deployment site to the incident site increase and weather conditions are taken into consideration.

Local Dependence on Regional HAZMAT Teams

In our survey to LEPC Chairs and county DES Coordinators we asked about their local response capability if a train derailed and one tank car of HAZMAT spilled. Counties responded indicating their capabilities across three broad categories:

- 5 counties were capable of responding to the event. All 5 counties host a regional HAZMAT team.
- 3 counties indicated a limited capability to respond to the event and were dependent on a regional HAZMAT team.
- 19 counties indicated their response would be limited to containment only and they were fully dependent on a regional HAZMAT team.

Survey respondents were then asked their response capability if a train derailed and five or more tank cars of HAZMAT spilled. Thirty-two respondents indicated little change in their capabilities. Those originally capable of responding to one tank car in the previous question indicated evacuation would be problematic if the incident occurred in a population center; they would maximize use of mutual aid with surrounding first responder agencies; and regional HAZMAT team support would be critical. All others indicated no change to their response capability–they were fully dependent on a regional HAZMAT team.

Survey takers were also asked to score their level of dependence on a regional HAZMAT team based on their current internal capability to respond to a train derailment with a HAZMAT spill.

- 22 percent were **totally dependent**–first responders have no response capability.
- 41 percent were **moderately dependent**–first responders only have the capacity to evacuate bystanders, homeowners, and businesses and they have limited firefighting capability.
- 28 percent were **somewhat dependent**–first responders have limited capacity that includes rescue from the HAZMAT "hot zone"; evacuating locals from the immediate area; and firefighting does not include offensive response activities such as closing valves and stopping the spill.
- 3 percent were **not dependent**–first responders have full HAZMAT response capability but in a large running incident would still require support from a regional HAZMAT team.
- 6 percent were **totally capable**–first responders have full HAZMAT response capability and a regional HAZMAT team exists in their jurisdiction.

HAZMAT Team Planning Windows

Survey takers were asked how long it would take for a regional HAZMAT team to respond to their jurisdiction. Sixty-seven percent expected a regional team to respond within 4 hours; 24 percent within 5 to 8 hours; 3 percent within 9 to 12 hours; 3 percent within 13 to 18 hours; and 3 percent in more than 48 hours. We discussed these response expectations with emergency managers both at the state level and in counties where regional HAZMAT teams are located and found the four-hour response time expectation was overly optimistic for those counties not directly adjacent to counties hosting a regional team. Additionally, since there are currently no regional HAZMAT teams in the eastern and northeastern portions of the state, a realistic response to those parts of the state could be as much as 12 or more hours depending on the season and the remoteness of the incident site.

Railroad HAZMAT Capability

The two major railroad companies in Montana have HAZMAT response capabilities centered in major rail yards in cities like Billings, Missoula and Havre. The railroads did not offer specific information on these teams' capabilities but they did indicate that while these teams were primarily meant for dealing with a HAZMAT spill in a rail yard, they could be deployed to other locations if the need arose. The state's largest Class I railroad has a large HAZMAT team located in Texas with nationwide response capability. Railroad officials indicated they would deploy by air to an incident site and could conceivably be on location within 8 to 12 hours. The railroads also maintain some equipment caches along their rail lines that include HAZMAT containment

booms and firefighting foam trailers specifically designed for fighting crude oil fires. The major railroad companies also have contracted HAZMAT response capability and those companies are primarily focused on cleanup, mitigation, and getting the rail lines open again. These contracted companies typically cannot execute their duties until a regional HAZMAT team or a large railroad company HAZMAT team responds and renders safe a HAZMAT spill.

Why Is There Not a Regional HAZMAT Team in Northeastern Montana?

During our audit work we found that while DES was aware of the situation and had tried to establish a regional HAZMAT team in the northeastern part of the state, the primary cause for the lack of regional HAZMAT team response is the lack of HAZMAT trained and equipped firefighters in the region; and the lack of a full-time, salaried fire department to host such a team.

Rural departments are primarily made up of volunteer firefighters who do not have the training and equipment necessary to adequately respond to a HAZMAT event. Interviews with local emergency planners and fire chiefs revealed that volunteers have little time for training during a given year and training they do conduct is focused on skills necessary to respond to the majority of their calls–emergency medical assistance, wild land fires and structure fires. Departmental and county plans generally consist of forming a perimeter around an incident to preclude people from entering the danger area; evacuate those within that perimeter within their capability; request support through DES for a regional HAZMAT team; and await the railroad's response. A large number of volunteer firefighters in the state have not had, or do not maintain, HAZMAT Operations level training for first responders, the minimum level of training recommended by the Fire Service Training School. Due to this lack of training, many of the volunteer departments cannot safely respond to any kind of HAZMAT incident in a defensive fashion.

Neither the SERC, nor DES, has the resources to place certified HAZMAT responders in the rural areas. If a new team were established in the state, DES would have some ability to provide equipment and ongoing training and certification for team members through federal grant and state general funding.

Department of Military Affairs HAZMAT Response Deployment Options

DES has considered deploying HAZMAT teams using Army National Guard aviation assets but DES indicates the time window between being notified of a lift requirement, preparation, loading the aircraft and travelling to the incident site is much larger than if

the team self-deployed using its own transportation assets. It is important to note that National Guard aviation assets would not be able to deploy the regional HAZMAT team's vehicle or trailer so any air deployment would require unloading the equipment from the trucks and trailers, and then finding suitable transportation for the team and its equipment at the incident site.

Weapons of Mass Destruction–Civil Support Teams (WMD-CST) are National Guard units designed to provide a specialized capability to respond to a chemical, biological, radiological, nuclear, or explosive (CBRNE) incident primarily in a Title 32 operational status. Their mission is to support civil authorities at CBRNE incidents. They identify CBRNE agents/substances, assess current and projected consequences, advise on response measures, and assist with requests for additional support. DES has considered using the CST to assist local authorities in the event of a major HAZMAT incident. However, these teams have some limitations. They generally have limited manning and equipment; are mainly capable of only self-decontamination; their medical capability is tailored strictly for team personnel; and they have limited capability to extract personnel from collapsed structures or confined spaces. Additionally, there is some question whether they can provide the offensive HAZMAT capabilities that regional HAZMAT teams provide in stabilizing, containing, and rendering safe a HAZMAT event.

How Other States Are Ensuring Statewide HAZMAT Coverage

We looked at neighboring states with large rural areas to see how they solved the problems of responding to a HAZMAT incident in remote areas, far away from major population centers.

Idaho has six regional HAZMAT teams, all hosted by large, full-time fire departments. Each team covers a region of seven to nine counties with a maximum response time of 3.5 hours anywhere in the state. Like Montana, rural communities in Idaho struggle with maintaining HAZMAT training qualifications amongst first responders. However, based on the decreased incidence of regional HAZMAT team deployments over the last several years, they are experiencing the benefits of increased statewide focus on getting first responders trained to deal with hazardous materials.

North Dakota has also focused on getting firefighters HAZMAT training. Training is provided at no cost to the departments and all travel and per diem are covered by the state. Training is provided in multiple locations across the state in four cities known as "Anchor Communities." These anchor communities also host four large, regional HAZMAT teams. There are two smaller HAZMAT teams located in other areas of

the state that do not have the full capabilities as the other four teams do. Assistance between teams is provided on an as needed basis. Regional HAZMAT team response to anywhere in the state is 1.5 hours.

Although **Oregon** is more populated than Montana, it does have rural communities dealing with the issue of the lack of HAZMAT training at the local level. The State Fire Marshal conducted a statewide comprehensive HAZMAT risk assessment to determine the probability of a HAZMAT event occurring and the potential consequences of those events. From that analysis the State Fire Marshal determined resource distribution and performance goals for regional HAZMAT teams and other first responders. Oregon has 13 regional HAZMAT teams covering the entire state with a maximum two-hour response time. Teams are made up of career firefighters and volunteer firefighters along with some law enforcement and public works employees. Teams are funded through the Petroleum Load Fee authorized in statute. This fee is collected each time a load of petroleum products is withdrawn from a bulk facility or imported into the state.

Although DES is aware of the disparity in HAZMAT response capability in the more rural parts of the state, the division has not conducted a statewide risk assessment or capabilities analysis to determine where the specific needs are and where resources could be applied to solve the problem.

DES Is Not Meeting its Statutory Responsibilities but There Are Options

While challenges exist in establishing a Northeastern Regional HAZMAT team, or deploying an existing team within a four- to six-hour window, DES could pursue other interim options including:

- A contractual agreement with one or more of the HAZMAT response service providers the railroads depend on.
- Pursue existing aviation capabilities present in the Montana National Guard to airlift regional HAZMAT team personnel and equipment to an incident site within a time window smaller than it currently takes to respond by vehicle.
- Continue to explore the option of using the National Guard CST but with the understanding they do not have the offensive capabilities organic to regional HAZMAT teams.
- Leverage HAZMAT training opportunities for volunteer first responders to identify individuals or organizations willing to develop skills and invest their time in gaining skills necessary to be a HAZMAT Technician.
- Develop interim or small-scale HAZMAT response team or teams with less than full capabilities to provide some level of local response capability.

- Identify additional individuals outside of fire departments who could participate in HAZMAT training and provide assistance to the departments or become members of a regional team.

RECOMMENDATION #5

We recommend the Department of Military Affairs develop and test hazardous materials response capabilities for Northeastern Montana that mirrors the typical response window of four to six hours.

Chapter IV – Montana Department of Transportation

Introduction

Our fourth audit objective focused on Montana Department of Transportation (MDT) and how it prioritizes the inventory and maintenance of highway-rail crossings. We found MDT is proactively addressing rail crossing maintenance and upgrade issues. However, additional measures could be taken to address crossing safety and traffic delays if additional resources become available.

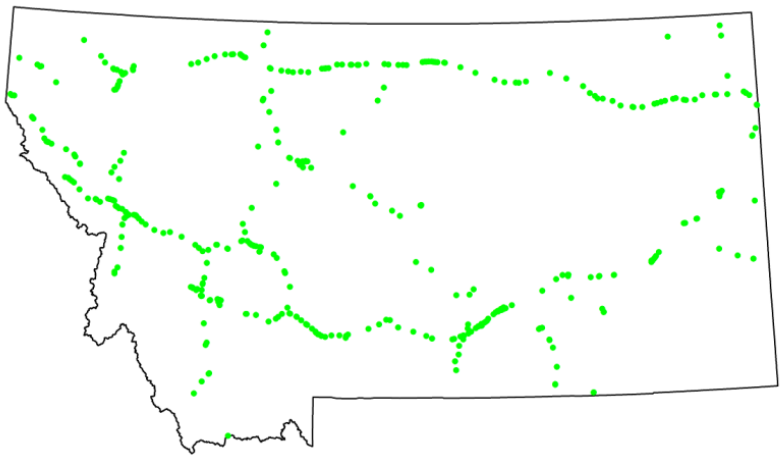
This chapter provides discussion of legal authority over the railroads; funding; avenues for crossing upgrades and repairs; maintenance tasks and projects; urban crossing issues; validation of the MDT Priority Index System; community safety; input from local authorities; and our overall conclusions.

State Law Provides MDT Authority Over the Highway-Rail Interface

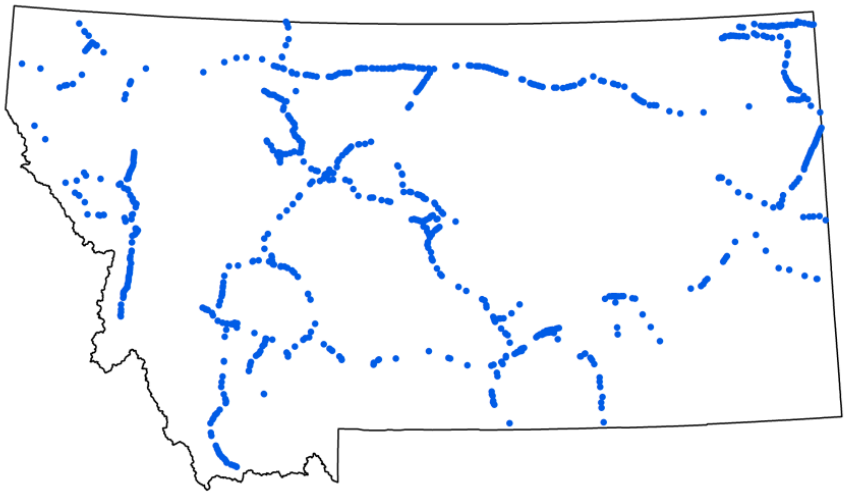
The department partners with the FRA in oversight of crossing maintenance, upgrade, and repairs executed by the railroad companies. The department also has authority over the expenditure of limited federal funding for highway-rail crossings. The MDT Traffic and Safety Bureau is responsible for the oversight of 1,360 rail crossings on 3,368 miles of track in the state, 452 of which have active crossing signals and the rest of which are controlled by passive signage. There are 1,700 private rail crossings in the state and MDT has no statutory authority over these crossings. The following two figures (see page 50) reflect highway-rail crossings in Montana. The first figure shows crossings with active crossing signals that can include flashing lights, gates, bells and traffic lights. The second figure shows crossings that include only passive crossing signals such as railroad crossing and stop signs.

Figure 9

Railroad Crossings With Active Crossing Signals



Railroad Crossings With Passive Crossing Signals



Source: Developed by the Legislative Audit Division using Montana Department of Transportation data.

Funding

MDT has a statutorily appropriated account for track improvement loans. This revolving loan account must maintain a minimum balance of $500,000 per statute. MDT provided three loans in the past five years and loan payoffs can take up to ten years. This account maintains the minimum balance from interest earned on loan repayment. By law the purpose of these loans is to preserve or enhance cost-effective

rail service to Montana communities and businesses. The most recent loans were used for the following projects:

1. In 2010, the City of Shelby used a $188,946 loan to rehabilitate a spur line in the industrial park that was damaged by a prior derailment.
2. In 2012, the Port of Northern Montana used a $320,000 loan to extend rail sidings within the port.
3. In 2013, the Fort Peck Assiniboine & Sioux Tribes used a $225,000 loan to refurbish rail switches and rail lines; and constructed a rail spur to support Bison Rail operations.

The federal Highway Safety Improvement Program (HSIP) allocated $3,150,000 to the Rail Highway Safety Program for the state in fiscal year 2014. Montana matched that by 10 percent with $315,000. Total federal and state funding for Montana's Rail Highway Safety Program was $3,465,000. This funding is used to install signals at crossings; upgrade older signal systems; and repair/replace crossing warning signs, signals, lights, etc.

Avenues for Crossing Improvements and Upgrades

MDT has two avenues for crossing improvements and upgrades, one is proactive and the other is reactive. The proactive system MDT uses is called the Transportation Information System, Highway-Rail Crossing Inventory System. The system uses field data collected by MDT personnel and railroad data obtained from the railroads on every crossing on a tri-annual basis. The Crossing Inventory System calculates a Priority Index rating for each public at-grade crossing.

The "Priority Index" is an assessment of the quantitative safety or risk of a crossing. The higher the index value, the greater the potential for a train-vehicle collision. A combined risk factor for each crossing takes into account train volume; geometrics of the roadway through the crossing (road width, horizontal and vertical alignment, sight distance, etc.); train types and speeds; number of tracks; and existing warning systems. Individual combined risk factors for each crossing are compared with all other crossings, along with an annual collision history review, and the crossings with the highest Priority Index values are reviewed to determine if MDT needs to conduct a diagnostic review of the crossing. Each rail crossing is inventoried every third year through an on-site review and documentation process that reassesses its score in the Priority Index. This inventory process is not the same as a signals or crossing inspection conducted by FRA or state rail safety inspectors, it is simply the reevaluation of the crossing's quantitative risk process that determines the need for repairs and/or upgrades. A diagnostic review team made up by MDT engineers, the local road authority, and the railroad evaluate the crossing to determine what, if any, safety improvements need

to be made. Typically these safety improvements involve changing a crossing from passive warning (signs only) to an active warning system (lights, bells, drop bars, etc.) In some cases, the crossing may have a high priority index but nothing else can be done to the crossing to improve safety within MDT resource limitations. Examples include the crossings in downtown Billings and Montana Avenue in Helena. If a safety project is deemed necessary then the MDT safety program pays for the system using 90 percent federal funding (HSIP) and 10 percent state funding. Improvement tasks are executed by the railroad companies. MDT conducted nine diagnostic reviews in 2014 for funding in 2015. At all nine locations MDT determined to move forward with installing signals, gates, and lights. At six of the nine locations, new improved crossing surfaces made of concrete will be installed. In 2014, MDT also started the discussion with stakeholders to install crossbucks, stop or yield signs, and emergency notification signs at all crossings. Additionally, MDT is working towards replacing all incandescent lighting at signalized crossings to LED lighting.

The reactive system MDT uses for crossing upgrade and repair includes an annual collision review of crossings. If there are more than two collisions at a particular crossing in a 10-year period a diagnostic review may be initiated to identify safety improvement needs.

Crossing Modernization

MDT annually submits letters to each operating railroad company in the state requesting nominations of crossing signals to be considered for an upgrade. Upgrades typically involve replacing or modernizing existing crossing equipment. Upgrades are selected by reviewing the Priority Index for the nominated crossings; the age of the signal systems; railroad priority; collision history; and any other variables that might affect the safety of the crossing. Upgrade cost share is 80 percent federal/state and 20 percent railroad. Upgrades can include installation of LED signal lighting; side lighting; remote signal transmitting units; replacement of obsolete signal equipment; and adding crossing gates.

In federal fiscal year 2014, the MDT Rail-Highway Safety program identified 13 rail-highway safety improvement projects utilizing federal funds. Nine of those projects are to upgrade passive warning devices to active warning. Three projects are circuitry upgrade projects to existing active warning systems. One project was to install three improved crossing surfaces. These improvement projects are at various stages of development. Four have been completed; two are under contract; five are in the agreement process; and two were pushed into the 2015 funding year.

If local governments do not agree with the crossing priority system for a given crossing and want to upgrade the safety systems in place, they can request to take part in a program whereby the county pays 50 percent of the crossing upgrade and MDT pays the other 50 percent. Due to the cost of this program, few local road authorities have taken advantage of it.

A signalized crossing with gates can cost between $200,000 to $400,000 each and a simple crossing with just signals generally costs around $280,000. The rail companies purchase the rail crossing equipment only after getting an authorization from MDT. After receiving the authorization the rail companies complete the installations and bill MDT. After the crossings are complete, the rail companies assume responsibility for maintenance work on them and FRA has oversight responsibility.

Urban Crossing Issues

As mentioned previously, some crossings like those in Billings and Helena may prioritize high for safety improvements but nothing more can be done at these particular crossings without some kind of grade separation. A grade separation might include a tunnel, an overpass or rerouting rail away from high vehicle traffic areas. Any of these grade separations cost tens of millions of dollars. Local authorities in Billings and Helena conducted their own feasibility studies and have concluded the funding is not available to address a project to separate rail traffic from vehicular traffic in these urban areas. MDT conducted a rail grade separation study in 2003 that identified grade separation needs and improvement recommendations but funding is not available to address those needs. MDT started a new rail grade separation study in February 2015. Uncertainty in the national transportation appropriation, authorization, and revenue stream limit the state's capacity to take on the very large grade separation projects in cities like Billings and Helena. However, should funds become available, plans exist in these jurisdictions to execute specific improvements at these highway rail crossings.

Validating the Priority Index System

Audit work included visiting a representative sample of crossings within a day's drive of Helena. We visited 19 crossings of various types including crossings with drop gates and preemptive warnings; crossing with flashing lights and signs; and crossings with warning signs only. With minor exceptions, observations at each of the crossings matched the information on the crossing inventory information provided by MDT. In one case, the crossing had been updated from passive warning signs to flashing lights, warning bell, and improved road bed. This crossing had been improved since the last crossing inventory three years ago. Other minor exceptions included damaged roadways and missing or faded "STOP" warnings and stop bars painted on roads approaching

the crossing. Through audit work we identified the approach road condition and roadway warning markings are the responsibility of the local road authority.

Conclusion

We conclude the Montana Department of Transportation, Highway–Rail Crossing Inventory System, is an accurate and valuable tool for ensuring highway-rail crossing safety in Montana and MDT proactively addresses rail crossing maintenance and upgrade issues.

Legislative Consideration of Changing Railroad Safety Priorities

Of the 30 state rail safety programs in place in 2014, 14 aligned with state departments of transportation and 16 aligned with regulatory agencies such as the PSC. FRA State Programs personnel indicate several states have moved their rail safety management programs from a public service commission-type organization to their state department of transportation. Our work also showed states employ a variety of different approaches when making decisions about funding railroad safety activities. Questions about both organizational placement and funding priorities reflect how states are reacting to federal preemption of traditional regulatory roles, and a reassessment of funding levels and sources in the light of increased need for railroad safety oversight. The following sections discuss these two trends in Montana and potential legislative consideration of changing railroad safety priorities.

What Kind of Agency Should Be Responsible for Railroad Safety?

Because many railroads cross state boundaries, the federal government's role in regulating interstate commerce has redefined the scale and scope of state activities in this area. As railroads expanded and smaller railroad companies merged, the states' role as regulator of railroads as common carriers changed. Increasingly, the federal government has assumed the role of regulator of railroads as common carriers and has preempted state action in areas such as service provision, pricing, competition, and operating regulations. However, federal action has not preempted all state regulation and one important area where state authority has been maintained is railroad safety. This raises the question of whether states need to review what kind of agency should be responsible for railroad safety issues. If states no longer regulate railroads as common carriers, does it still make sense to maintain the remaining safety functions in agencies focused on the regulation of monopoly utilities and common carriers?

Recent legislative activity in Montana illustrates these trends. During the 2015 Legislative Session, changes brought on by HB61 addressing federal preemption of much of Montana's existing railroad statutes left little for the PSC to regulate beyond safety. While the PSC has indicated it was awaiting the results of HB61 to establish a plan of action, the agency could face challenges in its efforts to take a more active role in railroad safety. If this is the case, the legislature may want to consider transferring railroad safety functions to another agency. Based on developments in some other states, consideration could be given to a state agency with existing responsibility for transportation safety. MDT core missions focus on the department taking an active role in transportation safety; is responsible for transportation emergency planning and coordination through the state DES; and is already responsible for highway-rail crossings in the state.

How Should Railroad Safety Functions be Funded?

Montana's current approach to funding the inspection aspect of its railroad safety activities is also defined by the regulatory authority of the PSC. Per state law, rail companies operating in Montana pay an annual fee based on the prior year assessment of their gross operating revenue as reported in their annual report to PSC. PSC management indicates they only regulate "intrastate revenue" rather than "gross operating revenue", meaning the rail companies are only assessed a portion of the revenue they gain when a train is loaded, travels elsewhere in the state, and unloads. Other states also include revenue based on track-miles or ton-miles. This revenue is money they received from companies when they haul their cargo across state boundaries, whether it loads or unloads in the state has no impact on this assessment. If the PSC is responsible for the regulation of all railroad safety in Montana, their oversight would include more than just the trains loading and unloading in the state.

Table 3
Railroad Car Tax Revenue Estimates

Fiscal Year	Total Revenue (millions)
2013	$2.179
2014	$2.418
2015	$3.641
2016	$3.741
2017	$3.833

Source: Compiled by the Legislative Audit Division from Legislative Fiscal Division records.

While the above assessment is the only assessment PSC is able to collect to support its rail safety program. Similar to other states tax on track-miles and/or ton-miles, Montana does have another assessment called the railroad car tax (§15-23-204, MCA). This assessment requires the railroads to pay a railroad car tax, which is deposited in the state general fund. This tax is based on a number of factors: miles of track within the state compared to total national miles and its value; number, kind and value of rolling stock

(locomotives, cars, etc.) owned and/or used in state compared to nationwide; miles traveled; state and nationwide gross earnings; gross costs; income; stock; debts; etc. Table 3 (see page 55) shows the revenue estimates for the railroad car tax as identified by the Legislative Fiscal Division.

The PSC railroad safety inspection functions discussed in an earlier chapter of this report are funded through a specific assessment made against all entities regulated by the PSC. As discussed, the agency's railroad safety functions are currently funded approximately $200,000-$250,000 annually, considerably less than the amount collected via the railroad car tax. Any consideration of moving the rail safety program authority from PSC to another department within state government would need to include consideration of funding requirements. Changing the regulatory focus away from utility or common carrier regulation and orienting more towards safety regulation could involve identification of a broader-based funding source. This could include the railroad car tax, but there could be other funding mechanisms available, if the legislature were to consider such changes.

Changing Priorities in Railroad Safety

Increasing volumes of railroad traffic and increasing risks from the transport of hazardous materials on the state's railroads have provided an opportunity to reevaluate priorities in Montana's regulatory approach. While the PSC has made efforts to refocus its statutory role in this area, important questions remain about the effectiveness of regulating railroads as common carriers, rather than treating the state's role as being primarily about safety. Depending on further developments in this area, the legislature could consider whether more changes are necessary to ensure Montana's regulation of railroad safety is as effective as possible and is funded in an appropriate way.

CONCLUSION

If the Public Service Commission is unwilling or unable to prioritize its railroad safety activities, legislative consideration of where these functions are assigned within state government and how they are funded may be necessary.

Responses

Montana Department of Transportation

Montana Public Service Commission

Department of Military Affairs

MDT

Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
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Michael T. Tooley, Director
Steve Bullock, Governor

October 7, 2015

Ms. Tori Hunthausen, Legislative Auditor
Legislative Audit Division
State Capitol Building, Room 160
Helena, MT 59620-1705

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Dear Ms. Hunthausen:

We would like to thank the Legislative Audit staff for their assistance and work performed on the Railroad Safety Performance Audit. Montana Department of Transportation appreciates the professionalism of audit staff.

We are pleased with the conclusion reached with respect to the Montana Department of Transportation.

We always look forward to the audit process and strive to improve our operations and performance.

Sincerely,

Michael T. Tooley
Director

MONTANA
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October 7, 2015

Ms. Tori Hunthausen
Legislative Auditor
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Helena, MT 59620-1705

Dear Ms. Hunthausen:

We have received your final report on the Performance Audit (Audit) concerning, among other things, the railroad safety programs conducted by the Montana Public Service Commission (Commission or PSC). Thank you for the opportunity to respond to the recommendations.

Two Commissioners and the PSC staff who are responsible for railroad safety have had the opportunity to review the final report and participate in the drafting of this response. However, because the final report is not yet public, the full PSC has not had the same opportunity; therefore, this response must be considered to be submitted on a conditional basis. Once the report is publicly released, it will be presented to the PSC for review and discussion. If the full PSC decides to revise this response in any way, you will receive an amended PSC response.

The Audit proposed several suggestions for the Commission, which are addressed below. Before examining the suggestions, some context of the Commission's authority over railroad safety should be provided.

In the early 20th Century, states had a significant role in regulating railroads for economic and safety purposes. This changed dramatically with the enactment of the Federal Railroad Safety Act of 1970 and the Interstate Commerce Commission Termination Act of 1995. Under these two acts, the Federal Government has assumed responsibility for the vast majority of railroad regulation. Courts have consistently found that the entire field of railroad regulation is now under the purview of the federal government, with the states being "deputized" to "participate" in federal programs.

For example, in 1997, the Montana PSC went to court[1] in an attempt to defend its jurisdiction over station closings. The federal district court in Montana found that the PSC no longer had authority to perform that function and stated that the field of economic regulation was preempted by federal law. Other courts have found the same for local environmental and public health and safety laws.[2] The lack of state authority in the field of railroad regulation creates serious challenges for state regulatory bodies that often inhibit expansion and enhancement of regulatory oversight.

The Commission retains some authority over railroad safety by working in partnership with the Federal Railroad Administration (FRA) to enforce federal safety regulations. The Commission's records indicate it has participated in this program since 1999. The FRA provides some support to the states by providing training and some tools for carrying out the state inspection programs. However, the Federal Railroad Administration does not provide funding for the employees used in implementing these state inspection programs. Simply put, the states become responsible for carrying out federal policy with state resources, forcing state regulatory bodies such as the PSC to make the choice of either dedicating resources beyond their practical limits, or not fully participate in the prescribed federal programs. The FRA cannot require the Commission to enforce its policy[3] and the Commission's participation in this state inspection program is entirely voluntary.[4] Furthermore, nothing in state law requires the Commission to participate in this program.

The audit states one of its objectives is to seek to address whether the Commission is "ensuring rail safety through its inspection programs and statutory responsibilities."[5] This is a challenging task given that the Commission's statutory responsibilities have recently been in flux, with regulatory authority in the field of rail safety transferred to the federal government in recent past. Until the last legislative session, the chapter concerning railroads in the Montana Code Annotated more accurately reflected the regulatory responsibilities of the Montana Board of Railroad Commissioners in the early 20th Century. In the last legislative session, the Commission requested legislation that repealed a significant portion of the antiquated sections in Chapter 14 of Title 69 of the Montana Code Annotated and added three subsections in Mont. Code Ann. § 69-14-111 (2015) to modernize state railroad safety regulation in Montana. These new subsections give the Commission affirmative statutory authority to take advantage of the narrow scope of regulatory authority left to states by federal law. Indeed, until the Commission-requested revision to Title 69 Chapter 14 this past legislative session, the Commission lacked explicit statutory authorization to participate in the federal program. Effective October 1, 2015, the Commission *may* participate in this program.

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[1] *Burlington Northern Santa Fe Corp. v. Anderson*, 959 F. Supp. 1288 (D. Mont. 1997).
[2] *Friberg v. Kan. City S. Ry. Co.*, 267 F.3d 439 (5th Cir. 2001); *City of Auburn v. United States*, 154 F.3d 1025 (9th Cir. 1998).
[3] *New York v. United States*, 505 U.S. 144, 161 (1992).
[4] Mont. Code Ann. § 69-14-110 ("The commission *may* . . . participate in investigative and surveillance activities in accordance with 49 U.S.C. 20105") (emphasis added).
[5] Audit p. 3.

The Commission's recent actions on railroad safety are in line with the general trend that states are becoming more involved in railroad safety after being declared preempted in the 1990s. This Audit should serve as further direction for the Commission to become more involved in the field of railroad safety regulation.

Recommendation #1(A): "Active Involvement in the Association of State Rail Safety Managers to ensure Montana has a voice at the national level."

The Commission's Transportation Manager will attend the annual meeting of the Association of State Rail Safety Managers in Washington D.C. during the week of October 19, 2015. The Commission's Transportation Manager is on the email list for this group and follows the topics of interest. The Commission recently signed onto a letter sent to the Federal Railroad Administration by the Association of State Rail Safety Managers to address the issue of blocked crossings of highways by railroads. The Commission sent this same letter to Montana's congressional delegation. The Commission will continue to increase its participation in this organization.

Recommendation #2(B): "Conduct a rail safety risk assessment; establish rail safety goals and objectives; develop a rail safety plan for Montana that is reviewed annually with the Federal Railroad Administration."

Formally conducting a rail safety risk assessment, establishing rail safety goals and objectives, and developing a rail safety plan will require substantial Commission time and resources. It will ultimately entail a policy decision to be made by Commissioners. The Commission will also need to coordinate with the various stakeholders. Finding solutions that are legally defensible and providing interested parties an opportunity to comment on proposals will require time and research. The Commission will explore opening an investigative docket to consider these recommendations.

The audit states the "PSC is not actively engaged, internally or externally with other stake holders, in rail safety."[6] This is not entirely true. Commission staff does have a relationship with the railroad companies. This is evident from the recent collaboration between the Commission and Burlington Northern Santa Fe (BNSF) to update Chapter 14 of Title 69 of the Montana Code Annotated. Additionally, at the suggestion of a State Senator, Commission legal staff has recently started attending meetings of the Rail Service Competition Council.

Despite these existing connections, engagement with stakeholders could be improved through some additional measures. At present, the Commission's interaction with BNSF mostly occurs though informal communication. This could be improved through annual informational meetings as is done currently with the regulated utilities in the state. The Commission's

[6] Audit p. 12.

connection to the railroad industry is primarily through BNSF. The Commission could work to have greater contact with Montana Rail Link and Union Pacific.

Recommendation #1(C): "Actively engage with Montana Disaster and Emergency Services, and other state and federal agencies, in emergency planning to ensure the rail safety program is proactively addressing risk in the state."

The Commission will also explore opening an investigative docket to consider these recommendations. The Commission will need to reach out to Montana Disaster and Emergency Services, and other state and federal agencies to properly implement this suggestion. The report also states the PSC has not attended Federal Railroad Administration regional conference calls.[7] The Commission can begin to participate in these calls prior to the conclusion of the investigative docket.

Recommendation #2: "We recommend the Public Service Commission increase its railroad safety inspection capability across the state through increased inspection coverage and frequency."

This suggestion is beyond the control of the Commission because the Legislature sets the Commission's staffing levels by way of funded full-time equivalent (FTEs) positions. The Commission did not request additional FTEs from the Legislature this past session for any purpose, because the Legislature seemed to be oriented toward reducing the state's workforce, not increasing it. Indeed, the Legislature removed 1.5 FTEs from the Commission in the 2015 Session. The Commission's budget, as approved by the Legislature, is funded entirely by the Commission fee that all regulated companies, including railroads but excluding motor carriers, pay. The Montana Department of Revenue collects the Commission fees from regulated companies and deposits it all in the one Commission account. The primary way for the Commission to add inspectors is for the Legislature to approve additional FTEs for that purpose.

This issue cannot be addressed until the next legislative session and staff is hopeful that a recommendation from the Legislative Audit Division could persuade the Legislature to authorize these three additional positions. Commission staff agrees with the Audit that railroad safety should be a priority for the State of Montana and the Commission. Thus, the Commission would welcome three additional rail safety inspectors if the Legislature were to approve such a measure. Without additional inspectors, the audit's recommendation to increase inspections of railroads by the Commission's two existing inspectors will not be practically feasible.

Included in this suggestion is building flexibility into inspector work schedules to enable inspection activities to extend beyond the current Monday through Thursday schedule. The Commission's Transportation Manager is working with our inspectors to explore the possibility of adding flexibility to their work schedules.

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[7] Audit p. 10.

In conclusion, this Commission recognizes the importance of strong railroad safety regulation, and welcomes the Legislature to explore opportunities to increase the resources available for the PSC in this field. However, until the Legislature authorizes additional resources, this Commission is severely limited to the extent in which we are able to participate in federal rail safety programs. This Commission will continue to seek all opportunities to improve rail safety in Montana with the resources currently available, but we urge the Legislature to strongly consider enhancing the PSC's abilities in this field by providing additional funding during the 2017 legislative session.

The PSC appreciates your staff's effort and professionalism during the audit.

Sincerely,

Brad Johnson
Chairman
Public Service Commission

DEPARTMENT OF MILITARY AFFAIRS

Steve Bullock
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October 13, 2015

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Re: Railroad Safety

Dear Ms. Hunthausen:

The Department of Military Affairs has reviewed the Railroad Safety recommendations in the Montana audit (14P-13) completed by the Legislative Audit Division. Our responses and corrective action plans for each recommendation are provided below.

Recommendation 3: We recommend the Department of Military Affairs complete all Emergency Support Functions within the Montana Emergency Response Framework and set a cyclic update plan for annexes with the associated departments.

Response: Concur

Corrective Action: In June 2015, the department established a workgroup comprised of state agency emergency response planners with oversight from agency directors. All agencies assigned an Emergency Support Function (ESF) role are actively participating. MT DES provided guidelines for ESF agencies based on Federal Emergency Management Agency (FEMA) Comprehensive Planning Guide (CPG) criteria. All ESF documents are scheduled for review several months in advance and the workgroup has convened monthly since June. This work group will continue to meet monthly to incrementally review and update ESF documents.

In addition, MT DES is collaborating with the State Emergency Response Commission (SERC) to incorporate the ESF workgroup as a subcommittee of the SERC. Doing so will provide an additional opportunity for a whole-community review of response documents.

Planned Completion Date: We anticipate all ESF annexes to be approved by agency directors by the end of November 2015. A cyclical plan for updating ESFs is fully implemented.

Recommendation 4a: We recommend the Department of Military Affairs establish a system for determining local jurisdiction capability statewide in order to address capability limitations at the local, county, and regional level.

Response: Partially Concur

Corrective Action: The department agrees that understanding the limitation of local response capabilities would be beneficial. However, MCA 10-3-201 states that each political subdivision shall designate an agency responsible for emergency and disaster prevention and preparedness and coordination of response and recovery. We believe this recommendation exceeds the authority of the department.

Additionally, MCA 10-3-1208 states that the local response authority, which is designated by the local governing body, must be trained in hazardous material incident response, and participate in local emergency operations planning for incident response.

MCA 10-3-105 states that the MT DES division shall coordinate the preparation of the plan and program for disaster and emergency services with the political subdivisions in the state. The department concurs that we do have a coordinating role with the local agencies described above and will determine how best to assess capabilities to the extent of the MT DES divisions authority. The department will establish and facilitate a workgroup comprised of local and state preparedness and response partners to determine how best to determine local capability limitation.

Planned Completion Date: We will establish a workgroup by December 2015.

Recommendation 4b: We recommend the Department of Military Affairs seek statutory authority that supports a system whereby local governments report local jurisdiction capability to Disaster and Emergency Services on an annual basis.

Response: Do Not Concur

Corrective Action: None. As stated above, MCA 10-3-201 states that each political subdivision in the state shall designate an agency responsible for emergency and disaster prevention and preparedness and coordination or response and recovery. Requiring local jurisdictions to report disaster and emergency preparedness capability to DES on an annual basis is a policy decision that would require statutory changes. This decision should be made by the Legislature in consultation with local governments. The department will continue to advise and assist the political subdivisions of the state in executing their disaster and emergency services responsibilities and will implement any policy changes determined appropriate by the Legislature.

Recommendation 5: We recommend the Department of Military Affairs develop and test hazardous materials response capabilities that mirrors the typical response window of four to six hours.

Response: Concur

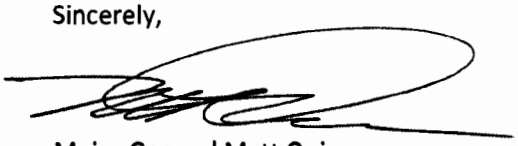
Corrective Action: The department is evaluating our ability to provide technical assistance and coordinate support to county and local governments related to rail incidents. The department is drafting an evaluation of the state-level coordination following the July 2015 Culbertson train derailment. Based on lessons learned, we will incorporate any identified shortfalls into a future hazardous material exercise.

Also, the department participated in a discussion-based exercise (table-top exercise), hosted by FEMA that focused on a tribal response for a crude-oil derailment. Operation Safe Delivery was conducted in September 2015 with participants from tribal nations, Burlington Northern Santa Fe (BNSF), the Environmental Protection Agency (EPA), MT DES, FEMA, and several other response partners. FEMA will provide a formal After Action Review (AAR) to all participants in November. We will incorporate identified shortfalls into a future hazardous material exercise.

Planned Completion Date: The department will conduct a rail-related hazardous material exercise in 2017.

Thank you for the detailed examination of rail safety in Montana. We appreciate your efforts and insight.

Sincerely,



Major General Matt Quinn
Director
Department of Military Affairs

cc: Sundi West, Deputy Director
Delila Bruno, Disaster & Emergency Services Division Administrator
Marschal Rothe, Response & Recovery Branch Manager
Burke Honzel, Preparedness Branch Manager