Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges

Summary for Planning Leaders

2021 Edition
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ABOUT THIS DOCUMENT

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APPLICATION

School districts and community colleges can use this document to guide the preparation of their emergency plans. Here, users will find a list of requirements of the Texas Education Code that apply at the time of publication, along with known industry standards, and recommended actions and best practices that they can consider based on specific needs or circumstance, as applicable. The guide is data-driven and was developed following a comprehensive review of federal and state requirements, latest research literature, and input from professionals with specialized expertise in hazardous materials, train derailments, emergency management, and school safety. The information provided in this guide does not, and is not intended to, constitute legal advice; instead, all information, content, and materials available here are for general information purposes only. The content is provided "as is;" no representations are made that the content is error-free. Users are encouraged to contact their local counsel and/or local experts to obtain the most up-to-date legal or other information that applies to their case.

CONTENTS

LIST OF ACRONYMS

EOP	emergency operations plan
HazCom	hazard communication
Hazmat	hazardous materials
LEPC	Local Emergency Planning Committee
SOP	standard operating procedure
SRP	Standard Response Protocol
TDEM	Texas Division of Emergency Management
TEC	Texas Education Code

INTRODUCTION

Planning for hazardous materials (hazmat) emergencies can seem like a daunting task. Lack of familiarity with the topic may lead to apprehension, reluctance, and avoidance from not knowing where to start.

It need not be so. First, there are only three potential responses to hazardous materials transportation incidents, two of which many districts already include in plans and procedures. Second, this *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* provides information, suggestions, and templates that districts can adapt to their own situation. The guide provides best practice recommendations to help districts develop a robust hazmat emergency plan or further enhance existing plans, policies, and procedures.

Not everything in this guide will be used by everyone, nor should the. District needs vary widely and even neighboring districts have different emergency planning circumstances.

Who Is This Guide For?

This guide's primary audience is district staff and other officials responsible for multihazard emergency operations plans as they relate to hazmat incidents. This includes:

- Senior district administrators.
- Emergency managers and safety officers.
- School resource officers.

Purpose

This guide can help districts meet the Texas Education Code (TEC) requirements and enhance their capacity to plan and prepare for hazardous materials emergencies. It provides recommendations and instructions for district and school administrators to update their emergency plans and procedures to comply with the TEC and increase their district's overall preparedness for hazardous materials transportation emergencies that may impact school operations.

Basis

This guide is based on available research on hazardous materials incidents and school safety, and existing state and federal guidance. The guide incorporates input from a diverse group of school officials devoted to emergency planning from across Texas who participated in discussions and provided additional guidance in its preparation.

Who Wrote This Guide?

This guide was developed by the Texas A&M Transportation Institute for the Texas Division of Emergency Management (TDEM). Funding was made available through the U.S. Department of Transportation's Hazardous Materials Emergency Preparedness Grant Program, administered by TDEM.

HOW TO USE THE GUIDE

Organization

The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* consists of five parts:

- Summary for Planning Leaders (this booklet), provides an overview to the guide.
- Volume 1: The Planning Framework and Process.
- Volume 2: Project Ideas for All Phases of Emergency Management.
- Volume 3: Threat and Hazard Assessments.
- Volume 4: Hazmat Emergency Plan Templates.

This summary serves as an introduction to the rest of the material in the guide and reviews the legal requirements and some common misconceptions about hazmat emergency planning for school districts. Board members and executives not immediately involved in emergency planning in their district or who are in an advisory role to such efforts can also use this summary to familiarize themselves with the guide's contents. *No district will require all of this material.* It is a comprehensive collection that provides the information that can be used by any district in the state at every level of knowledge, resources, and planning. District leaders and those appointed to key planning roles can use the materials to meet the TEC requirements and improve their plans and readiness, reduce their risks, and prepare their response to hazardous materials as needed. Volume 1 offers material especially useful for those unfamiliar with hazardous materials, emergency management, and emergency management planning. Its appendices provide information for all districts, no matter their expertise. For many districts, Volumes 2 and 3 will be the most important to their planning process. Some districts will find the templates in Volume 4 useful for aligning the district's emergency plans with the emergency plans used by their communities.

Table 1 summarizes the material covered in the *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges*.

Volume 1—Planning Framework and Process

Volume 1 introduces the planning framework and processes used in emergency management and applies them to school district and community college emergency planning for hazardous materials. This volume is the starting point for those new to planning roles or unfamiliar with emergency management planning concepts and terminology.

Additionally, the first volume provides the following resources in appendices, useful for planners looking to upgrade their hazardous materials plans and overall planning efforts:

- **Appendix A**—a Hazardous Materials/Train Derailment Plan Checklist used to evaluate existing plans.
- **Appendix B**—an outline of some of the special hazmat planning considerations for community colleges and some large high schools.
- **Appendix C**—lists practices for evaluating and addressing district capability gaps for hazmat incidents.

- **Appendix D**—identifies concerns for hazardous materials incident planning for persons with special needs, disabilities, and preexisting medical conditions.
- **Appendix E**—describes hazardous materials incident planning considerations for special events.

Table 1. Topics Covered in the *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges*.

Topic	Guide Volume	Pages/Appendix
Three hazmat hazards/threats	1	6–9
Three hazmat impacts	1	10
Three hazmat responses	1	10–11
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Incident Command System	1	15–16
Community emergency and hazmat planning experts	1	18–19
Five emergency management mission areas	2	1–2
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Mitigation	2	4–5
Preparedness	2	5–7
Response	2	7–10
Recovery	2	10–11
Sample district plans	4	All
Sample school procedures	2	Appendix D
Incident response teams	1	18–19
Threat and hazard assessment	1 Volume 3	19–20 All
Internal/external hazmat threats	3	4
Internal hazmat hazards	3	4–5
External hazmat hazards	3	5–8
Rail lines	3	5
Industrial, storage facilities, and oil and gas production	3	7
Pipelines	3	8
Roadways/hazmat on trucks	3	8

Volume 2—Project Ideas for All Phases of Emergency Management

Volume 2 provides hazardous-materials-related action items that districts can undertake in each of the five phases of the emergency management process to increase their readiness in each. The second volume also provides the following resources in appendices:

- **Appendix A**—a discussion of the particular problem of social media and public communication in hazardous materials and infectious disease events, and

recommendations for districts to address disinformation attacks and the spread of misinformation, limiting the complications they can create during a response.
- **Appendix B**—information on training resources and programs for school emergency managers and others involved in the planning and response to hazardous materials incidents affecting schools.
- **Appendix C**—recommendations on drill and exercise schedules and content for hazardous materials responses.
- **Appendix D**—a Planning Implementation Checklist for schools/classrooms.
- **Appendix E**—recommendations on preparing response kits for shelter-in-place hazardous materials events, incidental and small spill containment/cleanup, emergency decontamination, and first aid kits for accidents involving chemicals in science laboratories and other locations where districts use hazardous materials on school property.
- **Appendix F**—basic steps and action items your district can use to engage the community in emergency planning for hazmat.
- **Appendix G—**an explanation and discussion of cost tracking and recovery from hazardous materials incidents and the peculiarities involving the responsible party and who pays for the cleanup and recovery.

Volume 3—Threat and Hazard Assessments

Volume 3 answers the question, "What is my risk?" and offers guidance on using information about the risks in your district to improve readiness and planning. During interviews with school officials across Texas, a common problem identified was that school districts lacked information regarding the threat of hazardous materials to their schools. Some districts depended on local emergency management to provide them with relevant information about hazmat risks. Emergency managers are one source of information on hazardous materials. Fire departments and Local Emergency Planning Committees (LEPCs) are another. Districts are highly encouraged to use these resources in identifying their risks.

However, not all districts and jurisdictions may be able to get help with up-to-date or accurate information about their risks. Volume 3 focuses on the potential sources of hazardous materials risks to schools, describes the 3-3-3 model used as a basis for planning and response, and provides specific examples and step-by-step instructions for districts to assess their risks independently. Because the focus is on proximity and quantity, and the guide identifies some of the most significant potential risks affecting most school districts, the procedures described do not require technical knowledge or an understanding of hazmat. Instead, the focus is on *where* the hazmat is in proximity to a school and less on what it is. The response to any major external incident nearby a district facility will either be to STAY (Shelter-in-Place) or EVACUATE (Hazmat Evacuation).

Appendices

Additionally, Volume 3 contains appendices providing detailed instructions that districts can take to conduct a potential threat and hazard assessment for hazardous materials risks in their district without external support, including:

- **Appendix A**—instructions on how to identify active rail lines and measure their distance to district facility property lines.
- **Appendix B**—similar to Appendix A but for pipelines.
- **Appendix C**—instructions for assessing roadway hazmat transportation risks using basic information and an understanding of the most common hazardous materials to help with planning decisions.
- **Appendix D**—instructions for identifying industrial, storage, oil/gas, and other hazardous materials facilities in proximity to district facilities.
- **Appendix E**—outlines how to identify hazardous materials and explains the more common classification system for hazmat.

Volume 4—Hazmat Emergency Plan Templates

Volume 4 of the guide provides Sample Hazmat Emergency Plans and material for insertion into the district and facility plans, policies, and procedures to implement a comprehensive train derailment and hazardous materials preparedness program as part of district emergency plans. Because the plans are based on the same formats used by most local jurisdictions, they go beyond TxSSC's current requirements but in doing so may help school and district plans align directly with community plans, allowing for easier integration and coordination.

Specifically, Volume 4 includes:

- An explanation and introduction to the sample emergency plan templates for hazmat emergencies and train derailments.
- A Sample Template for a District Hazardous Materials and Train Derailment Annex to the District Emergency Operations Plan Basic Plan.
- Suggested content for modifying shelter and evacuation/reunification plans to incorporate hazmat-incident-specific measures.
- Sample Hazmat Emergency Procedures for Classrooms.
- A Sample Template for a School Hazmat and Train Derailment Emergency Operations Plan Annex.

KEY CONCEPTS

The guide is organized around a 3-3-3 model (Figure 1) of potential hazmat threats and hazards, impacts, and responses.

Three Threats and Hazards

The **three potential hazmat threats and hazards** are:

- **External hazards**—hazardous materials transportation routes (rail, pipeline, and road) and storage locations (industrial facilities, warehouses, above or underground tanks, and wellheads).
- **Internal/external threats**—individuals using hazardous materials or chemical explosives deliberately on or near school property with an intent to cause harm or damage to property, people, or operations.
- **Internal hazards**—hazardous materials stored and used on school property.

Three Impacts

Hazardous materials have **three potential impacts,** and materials can cause one, two, or all three impacts in an accident, depending on the material:

- **Explosion:**
  - Certain hazardous materials, due to their nature or means of storage, can explode if the container is damaged or if the material or its vapors come in contact with an ignition source.
  - Some chemicals react spontaneously with air or water or other kinds of chemicals that can cause an explosion.
  - Certain flammable gases stored under pressure can produce catastrophic explosions called boiling liquid expanding vapor explosions if the container is ruptured or exposed to fire.
- **Fire:**
  - Some of the most common hazardous materials transported by most means of transport (rail, road, and pipeline) are flammable liquids and flammable gases.
  - Some materials spontaneously combust when exposed to air.
  - Railways and trucks regularly transport flammable liquids and gases like crude oil, ethanol, and liquified natural gas or propane in the vicinity of schools.
- **Toxic exposure:**
  - Toxic materials pose risks to the life and health of those exposed to them.
  - Toxic materials can cause environmental damage and long-term pollution of soil and water.
  - Toxic exposures can be through inhalation of vapors, absorption through the skin, or ingestion through contaminated food or water.

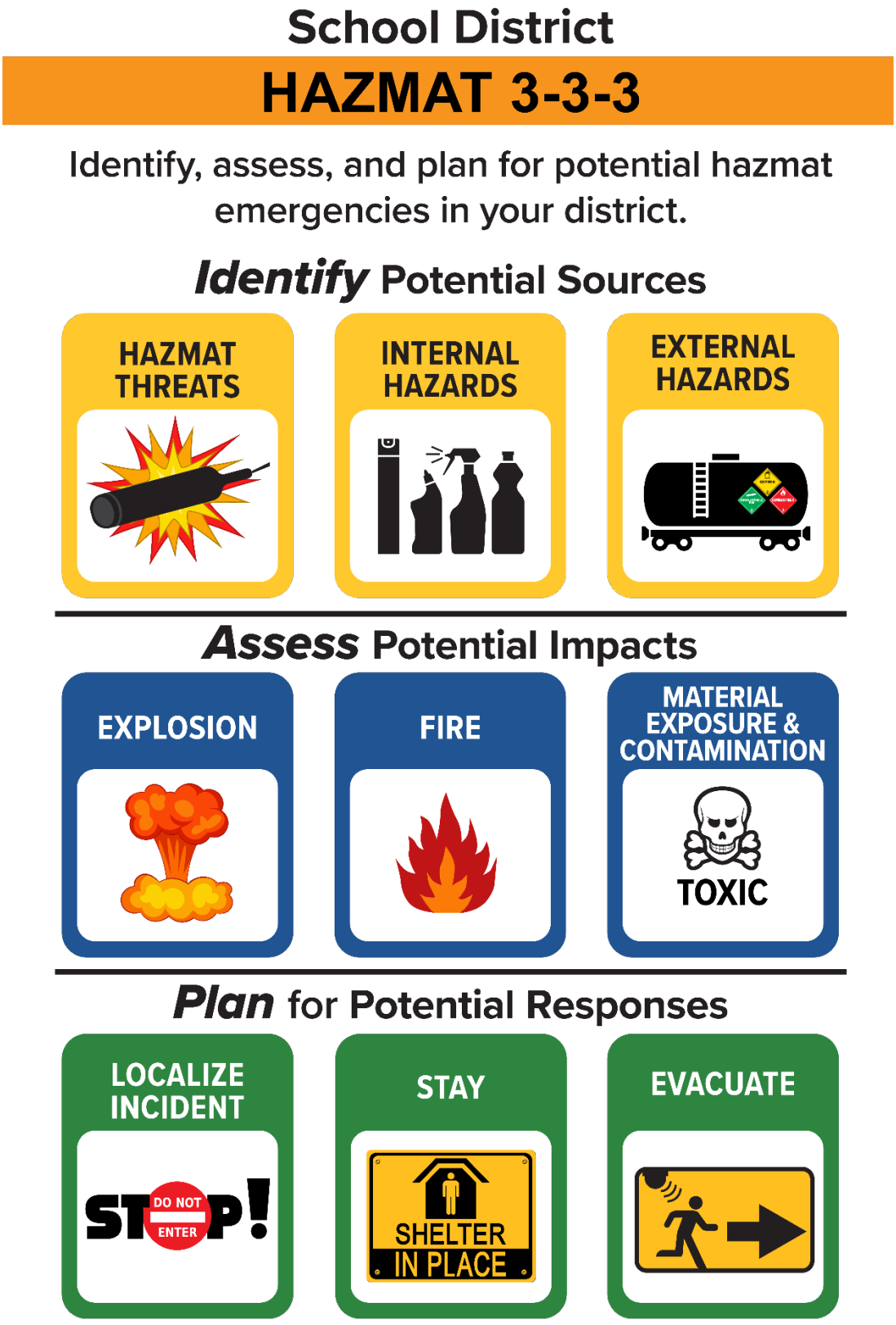

Figure 1. Hazmat 3-3-3 Model.

Three Responses

There are **three potential responses** to a hazardous materials incident affecting a school district. Two of these, localize incident and shelter in place, are already practiced in most districts. Some elements of both may already be in existing plans, policies, and procedures. The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* expands on both. It adds a third response, evacuation for hazmat. This response differs significantly from other evacuations and represents the most significant change for districts planning for train derailments and other serious hazardous materials incidents.

Evacuation for hazmat requires a different way of thinking about how and where to evacuate a school. Fortunately, the guide contains sample planning, policy, and procedural information for districts to implement this new response. If such a response is required, it will often occur with the assistance of first responders. Still, this area presents the most significant challenge for districts implementing train derailment emergency plans. Evacuation planning is likely to be a primary focus for any district looking to increase its hazardous materials preparedness.

LOCALIZE INCIDENT (Isolate, Deny Entry, and Contain)

The first response to hazardous materials incidents affecting schools is the least onerous. It deals with minor, localized incidents, addressed either as incidental spills or minor accidents with immediate area evacuation and a call for outside cleanup support. The focus is on protecting those near such incidents, like a laboratory accident or exposure to bloodborne pathogens. The response is to remove them from the presence of harmful substances and then provide emergency decontamination and first aid, for example, the use of an eyewash station or bandages for cuts caused by broken glass. Most schools already do these things and have some procedures in place for them. Incorporating them into a broader program across the five phases of preparedness substantially increases overall safety within districts. However, it does not pose a significant burden for planners.

STAY (Shelter-in-Place)

The second response is one most districts practice now, adapted from the Texas Standard Response Protocol (SRP) or another document: STAY (shelter in place). When a hazardous materials incident releases toxic contaminants into the air that spread downwind from an incident, those far enough away can shelter in place. For those at some distance from such an incident, concentrations are low enough to warrant a shelter-in-place action because the level of contamination outside may be harmful, especially to more sensitive populations, but sheltering indoors and sealing a building may keep levels low enough to allow the public to remain in place. Nearly every district in the state has a version of the shelter plan in place for weather or as part of a lock-down drill. The guide expands on those procedures to add additional considerations and measures to increase safety across the five phases of the emergency management cycle.

EVACUATE (Hazmat Evacuation)

EVACUATE (Hazmat Evacuation), the third response, likely requires the most adaptation for schools and school districts. It is also the most important from the perspective of meeting the

TEC requirements for train derailments. Schools must be prepared to follow evacuation orders from response Incident Commanders. The evacuation order may be for departing the premises, or a vertical evacuation to move from lower to higher levels (if that is an option). In extreme situations, it could be necessary to flee the scene if danger of catastrophic impact is imminent and apparent. Because hazmat impacts can present themselves in seconds or minutes, bus transport may not be available. **A district without a plan to evacuate immediately, on foot, to a safe distance, and in a direction upwind or crosswind from a train derailment is not prepared for a train derailment.** Fortunately, the guide does much of the work for districts in its sample plans and supporting documentation. Modifying these and adding them to existing plans is not a significant challenge. Implementing, training, and practicing the new procedures and policies are the more significant challenges.

EVACUATE (Hazmat Evacuation) does represent a departure from traditional thinking about school evacuations—you cannot tell everyone to evacuate to the football field or the parking lot if those locations are in the train derailment's impact zone. Instead, school districts need to think about places they can move to safely over some distance where buses can then pick up and take students and staff to a shelter and reunification point. They also have to think about access issues and the evacuation of individuals with disabilities, mobility issues, or other health concerns.

While evacuation for hazmat is more complicated than many other responses, it also offers a unique opportunity for districts to exercise their reunification plans and think about overnight shelter for hazardous materials events and other events like weather and active shooters. Preparedness to respond to a train derailment can significantly increase preparedness in other areas.

Further, training and practicing an evacuation due to hazmat can occur toward the end of a school day or before a long weekend without significantly impacting learning. Practicing the plan for transition from an evacuation to a reunification allows parents and the community to participate and learn about reunification procedures. Such involvement also significantly reduces the chance parents will respond to evacuation or shelter-in-place orders inappropriately, complicating the response.

LEGAL REQUIREMENTS

TEC Section 37.108 requires a **policy for train derailments** in district-level emergency plans if any school district facility has any part of its property line within 1,000 yards of a railroad track.[1]

Significant quantities of hazardous materials move by rail every day, passing by schools across the state without incident. However, incidents such as a train derailment can produce severe consequences. The four primary consequences are kinetic damage from derailed train cars, fire from spilled flammables, explosions from reactive compounds or pressurized tanks, and toxic material released into the air, water, or ground. Three of these (fire, explosion, and toxic release) are due to hazardous materials. Although significant hazmat incidents like a train derailment are relatively infrequent, when they occur, they often require immediate evacuation of surrounding areas due to the threat. The initial evacuation distance for severe incidents like a derailment is typically around 1,000 yards. From there, responders will initiate evacuations and shelter-in-place orders, sometimes extending many miles downwind from the incident site, depending on the specific threats posed.

More than 60 percent of Texas public school districts have at least one property line within 1,000 yards of a rail line. Even if your school district or community college does not, it does not mean your district does not face hazardous materials risks—far from it. Because wind can carry toxic and flammable vapors downwind from a derailment, additional evacuations and shelter-in-place orders can cause schools to react far from the incident site.

Further, flammable liquid trucks likely traverse roadways immediately adjacent to your district property every day, delivering fuel to gas stations, moving crude oil from wellheads, or moving other hazardous commodities to and from industrial facilities. You may have school property within 1,000 yards of a known hazardous materials facility or storage tanks. Texas has more pipelines than any other state. At least one likely passes near your district property lines. A few schools in Texas have active oil wells on or immediately adjacent to school property. Every school district has hazardous materials in its custodial closets, kitchens, athletic facilities, bus yard, equipment shops, or science laboratories.

Additionally, the TEC requires district plans to address all five phases of the emergency management preparedness cycle: prevention, mitigation, preparedness, response, and recovery. Many emergency operations plans (EOPs) and procedures focus only on the response. The TEC requires districts to identify threats and hazards and address them in plans across these five components. The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* provides recommendations and materials to address hazardous materials risks and threats in each phase. The guide also provides projects a school district can undertake to improve its preparedness for hazardous materials incidents in each phase of the cycle.

[1] The 2021 State Legislature modified TEC Section 37.108 from “district school” to “district facility,” increasing the number of districts included under the law. This change affects any district with any property line within 1,000 yards of an active rail line and includes warehouses, athletic facilities, and other district properties.

While your district must meet the legal requirements of the TEC for train derailments, in doing so, it is possible to address most other hazardous materials risks as well. This is because the plans, procedures, and responses are largely the same for districts, no matter the hazardous material source. Thus, the *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* provides districts with the means to meet the TEC legal requirements for train derailment planning *and* significantly improve their readiness for other hazardous materials risks at the same time.

COMMON MISCONCEPTIONS

Several misconceptions regarding hazardous materials and train derailment emergency planning requirements emerged during conversations with school officials across the state during the preparation of the *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges*.

Our schools within 1,000 yards of a rail line have a plan to respond to a derailment, so we are covered.

As noted previously, the rail emergency planning policy requirement in the TEC is a district-level requirement. Although individual schools that are in proximity to a rail line should also plan and prepare, the incident requires resourcing and coordination at a *district level* to support affected properties and, in some places, conduct simultaneous evacuation, shelter-in-place, and reunification efforts at multiple properties with strained or overburdened first responders unable to provide significant assistance. Procedures at high-risk schools are a great start. However, they are not the end of the process, nor do they meet the TEC requirements.

The Texas Standard Response Protocol and the I Love You Guys material covers hazardous materials emergencies.

The SRP is an extraordinary resource for school districts that can substantially improve their ability to respond to an emergency at the school level, especially to active shooters—its primary focus. It does not cover major hazardous materials responses, especially evacuations triggered by significant events near school property like train derailments. Also, the SRP is not a district-level EOP that addresses the five phases of the preparedness cycle. Instead, it consists of simple-to-implement procedures for schools and classrooms. Plans coordinate resources and elaborate procedures for how a district prepares for, responds to, and recovers from an emergency. Plans describe measures to reduce the risks posed by specific hazards and prevent emergencies from occurring in the first place. The SRP and other classroom-focused response information describe the measures individuals and small groups take to implement the response portion of school and district plans.

Shelter-in-place is the primary response to any major hazardous materials incident.

The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* describes three responses to a hazardous materials incident. Shelter-in-place is only one of them. Depending on the immediacy and nature of a hazmat incident, schools also need to be prepared to evacuate. Nevertheless, the most common hazmat incidents affecting schools are localized internal incidents. Schools should prepare to respond to all of these contingencies.

Protocols and standard operating procedures are a plan.

EOPs are documents that follow formats and guidance from various federal, state, and local sources. EOPs establish coordination and sharing of resources and lay out the procedures for how an organization or group of organizations address the identified threats and hazards they face across the preparedness cycle's five components. Protocols and procedures at an individual school level are a fundamental component of emergency response. Protocols and standard

operating procedures (SOPs) support EOPs by implementing aspects of EOPs during a response. SOPs and SRPs are not EOPs.

The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* contains sample plans for both districts and individual school properties that follow the same format as community EOPs in Texas, as established by TDEM. That means a district can directly cross-reference and align its planning with that of its community. More importantly, it means that community emergency planning organizations like local emergency management coordinators, police and fire departments, and organizations like LEPCs can readily understand and assist in developing school planning documents due to the use of a standard playbook.

We already address individuals with disabilities in our emergency planning.

Some of the unique problems presented by air quality and the immediate risks posed by incidents like train derailments require additional planning, policies, and procedures for vulnerable populations, including individuals with disabilities, beyond what some districts already have in place. Further, the unique nature of hazardous materials incidents puts several school populations at greater risk beyond those requiring additional assistance in an emergency. These include the very young, those with respiratory conditions like asthma or COPD, those with other preexisting medical conditions, and those with chemical or other sensitivities or allergies. The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* addresses many of these considerations. Further, using the information provided regarding these populations for hazardous materials emergency planning can also spark a discussion about access and responsibility for other emergencies that can significantly improve a district's preparedness to care for its most vulnerable.

Hazmat is too technical and too hard to deal with without outside support or more training.

Hazardous materials emergency response *is* a technical topic, and districts perform best when planning for such emergencies with outside support and extra training. However, this does not prevent districts from addressing their potential threats and hazards from hazardous materials. You do not need to be an expert in hazardous materials to prepare for hazmat incidents. The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* provides information, support, and examples to assist any district, with or without outside support or training, to implement a robust EOP that incorporates the legally required train derailment plan across the emergency management cycle.

I don't have the support or resources to identify my hazardous materials risk.

School districts and community colleges do not need to employ chemists or hazardous materials technicians to identify their potential threats and risks from hazardous materials. Community organizations like local emergency managers, police and fire departments, and LEPCs can help identify hazardous materials risks. For districts lacking support, the *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* provides step-by-step instructions for districts to identify specific hazardous materials risks to their schools. The key is to focus on proximity and quantity—not the material itself. Districts need to identify only hazards in four areas to identify hazardous materials risks. Districts can locate many of these with online mapping tools or a simple survey using Google Earth.

Hazardous materials risks are only external risks.

School districts store and use hazardous materials on their properties. Inventory controls, proper use and disposal, and regular updates to required Hazard Communication (HazCom) documentation go a long way to reducing hazardous materials risks to schools. Previous studies suggested that the most common hazardous materials incidents affecting schools are internal incidents—a spill of mercury or another contaminant in a science laboratory, the release of pepper spray or mace in a school hallway, a gas leak, or an air quality problem like carbon monoxide or black mold. Airborne and surface contamination by infected students and staff and bloodborne pathogens also pose biological risks inside schools. Infection control is about contamination, and contamination is about hazardous material. A positive side effect of COVID-19 was that many school districts addressed air quality problems and infectious diseases in their policies and procedures.

All of these constitute internal hazardous materials risks to schools. The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* offers suggestions, examples, and projects to address these internal hazards and incorporate existing response policies and procedures into emergency planning documents. More importantly, many of these projects and recommendations seek to reduce or eliminate these risks, offering districts a ready-made procedure to comply with their obligations under federal and state HazCom regulations and to significantly reduce their risk quickly and inexpensively.

Finally, studies show that young people experimenting with and using chemical explosives and incendiaries pose unique threats to schools. One study observed that the use of chemical explosives (often associated with the destruction of mailboxes) most often involved school-aged youth and sometimes occurred on or near school property.[2] Past active shooters have employed improvised explosive devices, smoke bombs, and incendiaries. Experimentation with explosive chemicals or the acquisition of materials for use in improvised explosive devices by school-aged children can be the stuff of dangerous pranks. However, it is also criminal activity and can serve as an indicator of a potential violent threat.

The *Hazardous Materials and Train Derailment Emergency Planning Guide for School Districts and Community Colleges* does not address assessment processes for such threats, which are well established in most districts. Instead, the guide addresses the threat posed by individuals involved in chemical bomb making or related activity by recommending that districts educate those involved in existing threat identification processes about the threat. These personnel can then incorporate such threats and activity into their existing threat assessment processes within the legal boundaries of the TEC.

[2] Source: Centers for Disease Control and Prevention. “Homemade Chemical Bomb Incidents—15 States, 2003–2011.” *Morbidity and Mortality Weekly Report*, Vol. 62, No. 24, June 21, 2013, pp. 498–500. https://www.jstor.org/stable/10.2307/24852284.