



Project Summary Report 1859-S
Project O-1859: Develop an Environmental Compliance Manual
for Small Urban and Rural Transit Systems

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Environmental Compliance Manual for Small Urban and Rural Transit Systems: Summary Report

Numerous inter-related environmental communication and compliance requirements challenge the transit industry. Within small urban and rural transit systems, these challenges are often met with limited resources and limited expertise.

Environmental compliance is just one of the many responsibilities facing a transit manager. One way to effectively manage the demands of these requirements is through the use of an environmental compliance manual and reference guide that addresses the most commonly encountered issues. This research summary report provides an overview of an environmental compliance manual developed for small urban and rural transit systems in Texas.

What We Did . . .

Environmental Compliance and Regulatory Review for Transit Systems

Researchers conducted a review of environmental compliance issues to identify relevant federal and state requirements, guidelines, rules, and codes. The regulatory review focused primarily on the rules from the Environmental Protection Agency (EPA) and the Texas Natural Resource Conservation Commission (TNRCC), but also included the Texas Department of Health

(TDH) and the Texas Department of Transportation (TxDOT).

Survey and Interviews of Small Urban and Rural Transit Managers

A limited telephone and fax survey of small urban and rural transit managers was performed. The responses to these surveys and interviews indicate that environmental compliance issues vary widely depending on the circumstances of each operation. The issues most commonly cited as important were waste management, fuel and fleet issues, stormwater management, and pollution prevention. Other

issues cited included air quality, the National Environmental Policy Act (NEPA) issues, Comprehensive Environmental Response and Liability Act (CERCLA) and environmental site assessments, and pollution clean-up activities. A review of Federal Transit Authority (FTA) circulars and transportation resources identified many of the same issues. Researchers also identified areas of future concern as new requirements for stormwater management, pollution prevention, and fuel and fleets. Additionally, transit operator feedback from a project briefing conducted at a quarterly public transportation meeting in May 2000 supported the

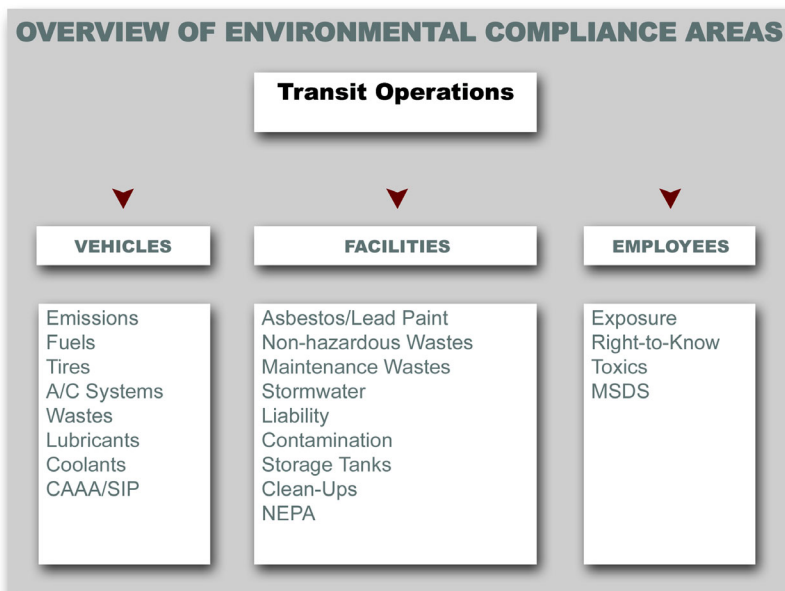


Figure 1. Environmental compliance areas for transit operations



proposed areas of emphasis for development of the manual. The project team created an environmental compliance manual for small urban and rural transit systems.

Environmental Compliance Chapters

Based on the regulatory review and transit operator input, researchers developed categories of environmental compliance into manual chapters for each area relevant to small urban and rural operators. The chapters include:

- Ch. 1 Introduction and Overview
- Ch. 2 Air Quality: Bus Emissions, Fuels, and Fleets
- Ch. 3 Petroleum Storage Tanks
- Ch. 4 Waste Management
- Ch. 5 Pollution Prevention
- Ch. 6 Stormwater
- Ch. 7 Toxic Substances
- Ch. 8 Employees and Compliance
- Ch. 9 CERCLA Liability and Site Assessments
- Ch. 10 Contamination and Clean-ups
- Ch. 11 National Environmental Policy Act (NEPA)

Figure 1 illustrates the compliance areas in relation to transit operations.

What We Found . . .

Environmental Regulatory Agencies

Federal environmental requirements are often administered and enforced by state agencies. TNRCC is the principal environmental regulatory agency in Texas, and therefore administers and enforces the majority of state and federal environmental compliance requirements. However, other state agencies may also administer and enforce environmental requirements. In particular, TDH, the General Land Office (GLO), and the Texas

Railroad Commission (RRC) administer environmental programs that may affect transit operations.

TNRCC and the other state agencies maintain comprehensive web sites that provide compliance information for the environmental programs they administer. These sites are often the most convenient resource for information, guidance, and forms. The state agencies and their respective areas of environmental regulation are listed in Table 1.

Major Federal Acts Affecting Transit Operators

The federal and state legislation affecting transit systems in Texas is summarized below. Many of the federal environmental requirements are mirrored at the state level with similarly directed legislation. The regulations that affect the transit agencies primarily originate from the Resource Conservation and Recovery Act (RCRA), the Clean Air Act Amendments (CAAA), the Clean Water Act (CWA), and CERCLA. In Texas, these rules are generally administered by TNRCC and supported with complementary

legislation and rules found in the Texas Administrative Code (TAC) and the Texas Health and Safety Code (THSC). The first stop for information on environmental compliance is the TNRCC web site (<http://www.tnrcc.state.tx.us/>). The TNRCC web site contains numerous guidance documents, forms, and rules to assist with environmental compliance of transit facilities.

RCRA

RCRA, which amended the Solid Waste Disposal Act, addresses solid wastes (Subtitle D) and hazardous waste (Subtitle C) management activities. Congress granted EPA the authority to regulate hazardous wastes from “cradle to grave.” The objective of hazardous waste regulation is the protection of human health and the environment. RCRA regulation is also intended to encourage the conservation and recovery of valuable materials. In Texas, the principal regulatory authority for the control and disposal of waste is the TNRCC.

Maintenance activities at transit facilities are known to generate solid wastes. Solid wastes include

Table 1. Texas agencies and environmental regulation

COMPLIANCE AREA	TNRCC	TDH	GLO	RRC
Air Quality	X			
Water Quality	X		X	
Pollution Prevention	X			
Waste	X	X		
Toxics	X	X		
Spills	X			
Fuel Use & Storage	X		X	X
Employees	X			
Contamination	X	X		X

TNRCC—Municipal, industrial and hazardous waste, air quality, air emissions, spills or releases from any source, pollution prevention, inland and coastal water quality

TDH—Toxics: lead and asbestos, indoor air quality, the work environment, certain municipal wastes and disposal

GLO—Alternative fuel usage, coastal and waters, oil spills, energy conservation

RRC—Alternative fuel technical standards, pipelines, fuels, oil spills



everything from discarded paper and light bulbs to used engine oil and solvents. Among these solid wastes, some may be classified as hazardous waste, some are classified as non-hazardous waste, and some are special wastes. However, if you produce any amount of waste—regardless of whether you store, recycle, or throw it away—you are subject to state and federal regulations.

When it comes to managing waste, the rules and regulations can be very perplexing. There are:

- federal laws and rules from EPA;
- state laws and rules enforced by TNRCC; and
- exemptions for certain amounts of waste, special requirements for others.

Taken together, waste regulations are intended to promote responsible management and tracking of wastes in order to avoid spills, releases, and unauthorized disposal.

The key to compliance with waste regulations includes:

- understanding waste terminology and definitions,
- minimizing waste to stay below regulatory thresholds and reduce costs,
- good housekeeping practices, and
- good record-keeping practices.

CAAA

The 1990 Clean Air Act Amendments affect transit agencies most directly by regulating vehicle emissions, bus engine emissions, fuels formulation, and the use of refrigerants. The CAAA also affects transit systems less directly by requiring transportation control measures for areas in non-attainment. The requirements for control measures are usually described in the state implementation plan (SIP). The SIP describes what control measures the state will enforce in order to meet federal clean air requirements. The level of control depends on the clean air attainment status of the agency location. Non-

attainment areas can include rural areas; therefore, transit agencies should reference the counties in which they operate to determine the air quality attainment status and requirements.

The SIP is the official document, housed at EPA, which details the efforts and commitments made by a state in fulfilling its Clean Air Act obligations. A SIP revision that has been adopted by TNRCC becomes state law immediately but does not become part of the SIP officially until it has been approved by EPA. If a transit agency operates in non-attainment counties, a change in the SIP is more likely to affect operation than other regulations.

CWA

Maintenance activities at transit facilities are known to cause stormwater pollution in urban areas. Activities such as fueling, brake repair and equipment cleaning require the use of detergents, solvents, and other chemicals that become waterborne when rainfall washes the pollutants from buildings, garages, parking lots, and storage areas into nearby rivers and streams. The Water Quality Act of 1987 included requirements to control stormwater discharges. Water pollution generated during storm events, whether it is referred to as urban stormwater or non-point source pollution, is now a regulatory focus. Recently, TNRCC was given the authority to administer all stormwater programs.

Municipalities with populations greater than 100,000 (Phase I cities) had to comply with these regulations by 1993. If the transit facility is in a city of more than 100,000, these requirements are not new. Now compliance extends to municipalities with populations less than 100,000 (Phase II cities), which may affect many small urban and rural transit providers. The Phase II Rule automatically covers on a nationwide basis all small municipal separate storm sewer systems (MS4s) located in “urbanized areas.”

CERCLA

CERCLA, also referred to as the Superfund, was enacted in 1980 in order to address uncontrolled releases of hazardous substances. CERCLA assigns liability to “responsible parties” to clean up uncontrolled hazardous waste sites. Transit agencies can be involved as responsible parties if they are:

- current owners or operators of the facility,
- former owners or operators at the time the hazardous substance was disposed,
- the party who arranged for disposal, or
- the party who transported the substance.

The Researchers Recommend . . .

Based on the results of this research project, the researchers recommend the following for TxDOT:

- Conduct outreach activities at public transportation meetings.
- Provide the compliance manual to small urban and rural transit agencies.
- Encourage the use of the quick checklist developed as a part of this project.



For More Details . . .

For more details about this research, see the following:

Report 1859-1, *Development of an Environmental Compliance Manual for Small and Rural Transit Systems in Texas*

Report 1859-2, *Environmental Compliance Manual for Small Urban and Rural Transit Systems*
DOT-T-95-09, *The Sourcebook on Transit-Related Environmental Regulations*

TNRCC web site <http://www.tnrcc.state.tx.us>

TDH web site <http://www.tdh.state.tx.us>

EPA web site <http://www.epa.gov>

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To obtain copies of reports, contact Dolores Hott, Texas Transportation Institute, Information & Technology Exchange Center, (979) 845-4853, or e-mail d-hott@tamu.edu. See our on-line catalog at <http://tti.tamu.edu>.

TxDOT Implementation Status August 2001

The product required from this project was an environmental compliance manual/reference guide for transit managers, including federal and state requirements on air quality and other issues.

The document contains excellent information on environmental web sites, documents, agencies, and other reference sources. Copies will be sent to:

- metropolitan transit authorities,
- urbanized transit systems, and
- rural/non-urbanized transit systems.

It is recommended that they retain a copy in administrative/operations offices, as well as in the maintenance shops. Copies will also be disseminated to TxDOT public transit coordinators and at South West Transit Association and Texas Transit Association meetings.

For more information, please contact Dr. Khali Persad, P.E., RTI Research Engineer, (512) 465-7908 or e-mail kpersad@dot.state.tx.us.

YOUR INVOLVEMENT IS WELCOME!

DISCLAIMER

The contents of this report reflect the views of the author, who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Texas Department of Transportation (TxDOT) or the Federal Highway Administration (FHWA). This report does not constitute a standard, specification, or regulation. In addition, the above assumes no liability for its contents or use thereof. The researcher in charge of the project was John Overman.