Safety and Health Program Administration

Requested by

Shanna Everts, Division of Safety and Management Services

May 11, 2018

The Caltrans Division of Research, Innovation and System Information (DRISI) receives and evaluates numerous research problem statements for funding every year. DRISI conducts Preliminary Investigations on these problem statements to better scope and prioritize the proposed research in light of existing credible work on the topics nationally and internationally. Online and print sources for Preliminary Investigations include the National Cooperative Highway Research Program (NCHRP) and other Transportation Research Board (TRB) programs, the American Association of State Highway and Transportation Officials (AASHTO), the research and practices of other transportation agencies, and related academic and industry research. The views and conclusions in cited works, while generally peer reviewed or published by authoritative sources, may not be accepted without qualification by all experts in the field. The contents of this document reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the California Department of Transportation, the State of California, or the Federal Highway Administration. This document does not constitute a standard, specification, or regulation. No part of this publication should be construed as an endorsement for a commercial product, manufacturer, contractor, or consultant. Any trade names or photos of commercial products appearing in this publication are for clarity only.

Table of Contents

Executive Summary

Background

The Caltrans Division of Safety and Management Services oversees the safety of Caltrans employees through the safety program administered by the Office of Health and Safety (OHS). OHS is interested in investigating ways to improve its safety program, with a particular interest in organizational structure, roles and responsibilities for program administration, processes and procedures, and effective communication strategies.

To assist OHS in its evaluation of current practices, CTC & Associates conducted a survey of state departments of transportation (DOTs) and selected California state agencies. Results of a literature search supplemented survey findings.

Summary of Findings

Online surveys that gathered information about the administration of safety and health programs received responses from 20 state DOTs and two California state agencies (California Department of Forestry and Fire Protection (CAL FIRE) and California Department of Corrections and Rehabilitation). Survey results are summarized in the topic areas below. Page number references following each topic area indicate where detailed information about the topic is available in the **Detailed Findings** section of this report.

Program Oversight and Administration (see page 9)

Respondents were asked to describe the oversight body responsible for coordinating their agencies' safety program, and the department or division in the agency responsible for administering the program. Survey responses indicated no standard practice, with oversight and administration of respondent programs falling into five functional areas:

- Departmental/divisional administration.

- Human resources/personnel management.

- Maintenance and operations.

- Risk management.

- Safety.

The table that begins on page 10 describes how each oversight body fits into the larger organization.

Roles and Responsibilities for Ensuring Compliance (see page 11)

All but one of the responding agencies reported a decentralized structure of the roles and responsibilities for ensuring compliance with the safety program. Many agencies employ dedicated safety consultants, officers or specialists in each district or region, while others rely on nondedicated safety staff to ensure compliance with the safety program.

The tables that begin on page 11 summarize the safety-related staff positions reported by respondents and describe the roles and responsibilities of these individuals in two staffing categories:

- Safety consultants, officers or specialists.

- Administrators, committees, engineers or supervisors.

Communication Practices

Communication Methods (see page 15)

The survey asked respondents about the use of some common communication methods to share information about the safety and health program with employees. All respondents use the agency web site, and all but one respondent reported the use of email to disseminate program information. Periodic safety meetings, special events (for example, an annual training day), and tailgate/toolbox talks or meetings are also used to encourage staff engagement. Respondents are least likely to communicate via newsletter.

Safety Meetings (see page 17)

All responding agencies hold safety meetings that are attended by central office and program/district/region office staff members. Almost two-thirds of respondents hold monthly meetings, and two state DOTs—Florida and Texas—hold monthly, quarterly and annual safety meetings.

Safety Manuals (see page 18)

Respondents indicated no consensus when asked how often their agencies distributed an agencywide safety manual to all employees, though almost half of respondents distribute the manual after an update.

Though the survey did not specifically address it, several respondents reported on the frequency of their safety manual's review and update. Florida DOT conducts a mandated review and update of the manual every two years in addition to pen-and-ink changes made during nonmandated review periods. Illinois DOT conducts an annual review and updates its manual at least every five years, while Pennsylvania DOT is moving to an annual review and update of its safety manual. Other agencies provide a safety manual to new employees (Louisiana Department of Transportation and Development and Texas DOT) or require all employees to sign and date a form after reading the manual (South Dakota DOT).

Communication Challenges (see page 20)

When asked about any challenges their agencies have experienced—and possibly overcome—in communicating the importance of adherence to the safety program, respondents reported a range of issues, from changing an entrenched culture to striving for consistency across regions with differing local conditions.

Related Resources (see page 21)

This section of the report provides citations for the safety manuals and other communications-related publications provided by respondents or identified in a literature search for publicly available documents.

Tracking Safety Compliance

Agencies use a variety of tools and methods to track safety-related compliance. Initial survey responses provided limited information about the online systems used to track training and other aspects of the safety program. A follow-up survey sought more detailed information about these systems.

Online Systems in Detail (see page 25)

Three respondents described commercial off-the-shelf products that have been customized for agency use:

- CAL FIRE uses TargetSolutions to track training at a cost of $75 per user (initial and ongoing annual maintenance costs).

- Kentucky Transportation Cabinet's Kentucky Enterprise Learning Management System (KELMS) is used to track "employee development opportunities."

- Georgia DOT's SafeTrack, which operates on an Oracle Business Intelligence platform, tracks injuries and crashes.

The systems varied widely in their functionality, with SafeTrack offering the greatest number of features and functions. The CAL FIRE respondent indicated the highest level of satisfaction with the online system ("extremely satisfied"); the Georgia and Kentucky respondents reported lower levels of satisfaction (3 and 2, respectively, on a scale of 1 = not at all satisfied to 5 = extremely satisfied).

Other Online Systems, Databases and Software (see page 26)

Other respondents provided more limited information about online systems, databases and software used to administer their safety and health programs. Among them:

- Florida DOT's Industrial Safety Information Management System (ISIMS) is used to record injuries/illnesses and crashes/incidents involving agency employees.

- Montana DOT's iAuditor is a mobile application used by safety consults to document inspection activities.

- South Carolina DOT's Risk Management Information System (RMIS) is used to track the status of each DOT vehicle or equipment accident, including any corrective actions imposed upon agency drivers.

Other Tools and Methods (see page 27)

Additional tools and methods that respondents reported using to track safety compliance include data (statistics, activity reports, and inspection and observation cards); forms (completed after monthly safety meetings or to capture adherence with policy requirements); safety meetings and audits; and training (databases, software and learning management systems that track employee training).

Documenting Safety Processes (see page 29)

Most responding agencies document safety processes through safety manuals and agency policies and procedures. Other documentation practices include job hazard/job safety analyses

(Georgia, North Dakota and Utah DOTs) and safety and risk management administrative directives (New Mexico DOT).

Encouraging Staff Engagement (see page 31)

Respondents were asked to describe the policies or practices that have proved to be effective in creating active interest, participation and accountability among staff members with regard to the safety program. They reported on award or recognition programs (New Mexico DOT's annual safety award program and Ohio DOT's quarterly Safe Performance Program), special events (Oregon DOT's annual Safety Break), and committees or work groups (Florida DOT's Innovators! teams and Utah DOT's ROADS (Recognizing, Observing and Achieving Department Safety) committees). Other agencies focus on safety as a shared responsibility.

Safety Program Direction (see page 35)

Some safety programs are just beginning to be formalized or are under review:

- Alabama DOT's overall safety program is just beginning to evolve into a formalized departmentwide program. The respondent noted that the more formalized program can be administered "across the department with consistent focus and compliance."

- Connecticut DOT is reviewing its safety program "for effective and appropriate structure."

- Idaho Transportation Department is currently developing "a more formalized safety plan."

Other Safety Program Resources (see page 35)

Two respondents provided procedural documents and forms used to administer their safety and health programs:

- In Kentucky, the Employee Safety and Health Branch of the Office of Human Resources Management recently developed and implemented new procedures and forms for reporting health and safety issues. The respondent provided a sampling of these forms.

- The New Mexico DOT respondent provided a sampling of the agency's safety and health directives and policies.

Note: The next two sections of this Preliminary Investigation summarize survey responses to questions posed only to California state agencies.

Administering an Injury and Illness Prevention Program (see page 37)

The California state agencies surveyed for this project were asked about administration of the agencies' Injury and Illness Prevention Program (IIPP).Title 8, Section 3203 of the California Code of Regulations requires every employer to develop and implement an effective IIPP.

Only the CAL FIRE respondent reported on a formalized IIPP, noting that each region and unit safety officer inspects the IIPP annually to ensure IIPP-7 forms are signed (this form confirms an employee's review of the plan). Training is required annually and documented using the IIPP-7 form. By customizing the IIPP Guide for Managers and Supervisors (IIPP-1) template, a

written program is created for each facility or workplace. A copy of the IIPP is maintained at each worksite.

California Department of Corrections and Rehabilitation (CDCR) does not currently maintain a formal IIPP but is developing an IIPP and a centralized safety program.

Training Practices (see page 38)

CAL FIRE hosts periodic workshops and conducts annual training for its employees. In-house in-person classes are offered in conjunction with annual safety conferences and new employee orientation. CDCR conducts annual emergency procedures training for all staff; some individual institutions may provide more frequent general training. Specific safety training (for example, vehicle operation) is conducted at individual institutions. CDCR offers in-house in-person and train the trainer classes, as well as new employee orientation.

Gaps in Findings

Two of the surveys conducted for this project received a limited response. Of the seven California state agencies surveyed, only two responded, and one of these agencies (CDCR) is just beginning to formalize a centralized safety program. A follow-up survey distributed to the 20 state DOTs and two state agencies responding to the initial survey also garnered little feedback, with only three of the six agencies responding providing details about online systems. Continued efforts to engage with survey respondents or with other California state agencies could yield findings of interest to Caltrans.

Next Steps

Moving forward, Caltrans could consider:

- Reviewing the organizational structures reported by survey respondents to identify agencies with structures of interest to Caltrans. Follow-up contacts with these agencies could gather information about the advantages and disadvantages of these organizational structures.

- Examining in detail respondents' safety manuals and related publications to learn more about agency practices, policies and procedures.

- Identifying the practices used by respondents to communicate with employees, document safety processes and encourage staff engagement that might be appropriate for use within Caltrans. These practices include:
  - o Utah DOT's observation cards.
  - o Job hazard and safety analyses used by Georgia, North Dakota and Utah DOTs.
  - o Special events, such as Oregon DOT's annual Safety Break, North Dakota DOT's annual training day and Pennsylvania DOT's Safety Stand-Down Days.
  - o The tailgate/toolbox meetings or talks used by Connecticut, Florida, Ohio and South Carolina DOTs to engage with staff in the field.
  - o Award or recognition programs such as the established programs supported by New Mexico and Ohio DOTs, and the program in development by South Carolina DOT.

- o Special committees such as Utah DOT's ROADS committees and North Dakota DOT's employee-based work groups.

- Consulting with respondents to learn more about the online systems used for training purposes (CAL FIRE's TargetSolutions and Kentucky Transportation Cabinet's KELMS), and the systems used to track injuries and crashes (Florida DOT's ISIMS, Georgia DOT's SafeTrack and South Carolina DOT's RMIS).

- Contacting agencies currently reviewing an existing safety program (Connecticut DOT) or developing a more formalized safety program (Alabama DOT, Idaho Transportation Department and CDCR) to learn more about how agencies approach these activities.

- Consulting with CAL FIRE to learn more about the agency's administration of its IIPP, including the use of template documents and forms.

Survey of Practice

Survey Approach

The Caltrans Division of Safety and Management Services oversees the safety of Caltrans employees through the safety program administered by the Office of Health and Safety (OHS). OHS is interested in investigating ways to improve its safety program, with a particular interest in organizational structure, roles and responsibilities for program administration, processes and procedures, and effective communication strategies.

To inform its evaluation of current practices, OHS is seeking information about the administration of safety programs in other state agencies. Online surveys (see Appendix A) were distributed to two groups of potential respondents:

- State departments of transportation (DOTs). We used the member list of AASHTO Committee on Human Resources to make the appropriate contacts.

- California state agencies. We contacted seven California state agencies:
  - o Department of Corrections and Rehabilitation.
  - o Department of Fish and Wildlife.
  - o Department of Food and Agriculture.
  - o Department of Forestry and Fire Protection.
  - o Department of General Services.
  - o Department of Water Resources.
  - o Environmental Protection Agency.

Summary of Survey Results

Twenty state DOTs responded to the survey:

- Alabama.
- Connecticut.
- Florida.
- Georgia.
- Idaho.
- Illinois.
- Kentucky.
- Louisiana.
- Montana.
- New Mexico.
- North Dakota.
- Ohio.
- Oklahoma.
- Oregon.
- Pennsylvania.
- South Carolina.
- South Dakota.
- Texas.
- Utah.
- Wyoming.

Two California state agencies responded to the survey:

- California Department of Corrections and Rehabilitation (CDCR).

- California Department of Forestry and Fire Protection (CAL FIRE).

Note: CDCR is developing a centralized safety program. Currently, administration of the safety and health program is managed by the fire chief at individual institutions. The CDCR Human Resources Division is responsible for managing mandatory postings; its Facilities Division provides emergency training. Given the local administration of safety programs, the CDCR survey respondent was unable to address some survey questions.

Survey results are presented below in the following topic areas:

- Program oversight and administration.
- Roles and responsibilities for ensuring compliance.
- Communication practices.
- Tracking safety compliance.
- Documenting safety processes.
- Encouraging staff engagement.
- Safety program direction.
- Other safety program resources.

Following this discussion of survey results are two additional sections that summarize survey responses to questions posed only to California state agencies. The topic areas of these final sections are:

- Administering an Injury and Illness Prevention Program.
- Training practices.

Publications provided by respondents and gathered from a literature search are included throughout this report in **Related Resources** sections in the relevant topic areas.

Program Oversight and Administration

We asked respondents to describe the oversight body responsible for coordinating their agencies' safety program, and the department or division in the agency responsible for administering the program. Oversight and administration of respondent programs can be organized into five functional areas:

- Departmental/divisional administration.
- Human resources/personnel management.
- Maintenance and operations.
- Risk management.
- Safety.

The table on page 10 summarizes survey responses.

Safety Program Oversight and Administration		
Division or Office	**State/Agency**	**Program Administration**
Departmental/divisional administration	Alabama	Supervisors in each department.
	CAL FIRE	Cooperative Fire, Training and Safety Program unit reports to the deputy director of Fire Protection.
	Idaho	Office of Highway Safety safety manager works with safety officers in district/region offices.
	Wyoming	Division administrators (executive staff) are responsible for program oversight; staff administering the safety program report to the assistant chief engineer for operations.
Human resources/personnel management	Connecticut	Occupational Health and Safety Unit in the Office of Human Resources. (The current structure is under review.)
	Georgia	Human Resources Division. (The agency partners with the Georgia Department of Administrative Services to administer the insurance portion of the safety program.)
	Illinois	Occupational Safety and Health Unit in the Bureau of Personnel Management.
	Kentucky	Employee Safety and Health Branch in the Office of Human Resource Management.
	Montana	Human Resources and Occupational Safety Division.
	Ohio	Office of Employee Health and Safety in the Division of Human Resources.
	Oklahoma	Senior staff in the Safety Branch of the Human Resources Division.
Maintenance and operations	Louisiana	Loss prevention director is directly supervised by the chief of maintenance and secondarily by the assistant secretary of operations.
	North Dakota	Maintenance engineer.
Risk management	New Mexico	Risk Management Bureau at the administrative office and six district risk management sections.
	South Dakota	Safety coordinator within the Office of Risk Management; each of the agency's four regions maintains a safety committee.

Safety Program Oversight and Administration		
Division or Office	**State/Agency**	**Division/Office/Unit/Parties Responsible for Oversight and Program Administration**
Risk management	Utah	Risk Management Division is responsible for program development and administration; the Operations Department provides program oversight.
Safety	Florida	Industrial Safety Division in the State Safety Office.
	Oregon	Transportation Safety Division includes the Office of Employee Safety (the director and two division safety managers), with soft report assets within the Highway Division.
	Pennsylvania	Employee Safety Division and 22 district safety coordinators assigned to each of 11 district offices.
	South Carolina	Safety and Health Office.
	Texas	Occupational Safety Division establishes program policy, guidelines and metrics.

Roles and Responsibilities for Ensuring Compliance

When asked whether roles and responsibilities for ensuring compliance with the safety program were decentralized, respondents from all agencies but one—Louisiana Department of Transportation and Development—reported a decentralized structure. Many agencies employ dedicated safety consultants, officers or specialists in each district or region, while others rely on nondedicated safety staff to ensure compliance with the safety program.

The tables below summarize the safety-related staff positions and roles and responsibilities reported by respondents in two staffing categories:

- Safety consultants, officers or specialists.
- Administrators, committees, engineers or supervisors.

District/Region Safety-Related Staffing: Safety Consultants, Officers or Specialists		
State/Agency	**Staff Position(s)**	**Roles and Responsibilities**
CAL FIRE	• Region safety officer • Unit safety officer	*Safety officer* designated at the agency's two regions and within its 21 units works with the central office safety officer. Responsibilities include administering the Injury and Illness Prevention Program, providing accident review and prevention, establishing safety committees, preparing and distributing safety communications and project work plans, posting warnings and monitoring employees' personal

District/Region Safety-Related Staffing: Safety Consultants, Officers or Specialists		
State/Agency	**Staff Position(s)**	**Roles and Responsibilities**
		protective equipment.
CDCR	• Institution fire chief	Administers the safety program at his/her institution.
Florida	• District safety manager • Senior health and safety specialist • Safety specialist	*Health and safety specialist* reports to each district's safety manager. The district director of operations oversees safety-related district activities.
Georgia	Safety officer in each district and in the agency's Highway Emergency Response Operations Unit	Partners with managers and employees on all safety-related issues, including tracking accidents, gathering and compiling reports, identifying training topics and conducting on-site visits.
Idaho	Safety officer in each district	Administers the safety program and conducts equal employment opportunity compliance contractor audits; reports to the district engineer.
Illinois	• Safety representative in each district • Safety and compliance manager	Provides resources, incident investigation and training.
Kentucky	• Safety coordinator in each district • Chief district engineer	*Safety coordinator* works with Employee Safety and Health Branch staff to monitor safety functions statewide.
Montana	Safety consultant in each district	Provides professional development, implementation and management of occupational safety and health, employee safety and risk management programs. Serves as the district expert on the implementation and administration of safety programs, interpretation of safety regulations, safety awareness, safety training and compliance.
New Mexico	• District occupational health and safety supervisor (one per district) • Occupational health and safety specialist (two per district)	Implements the department's risk management program through facility safety inspections; workers' compensation case management; investigation of vehicle crashes involving department vehicles; employee safety education; management of the random drug and alcohol testing program for commercial driver's license holders; investigation into accusations of workplace violence; investigation of losses involving department property; and tort claim investigation for the department's insurance carrier.

District/Region Safety-Related Staffing: Safety Consultants, Officers or Specialists		
State/Agency	**Staff Position(s)**	**Roles and Responsibilities**
Ohio	• Safety and health program consultant • Safety and health inspector	*Safety and health program consultant* develops, implements and monitors the district safety program, including the annual safety plan; serves as consultant to district deputy director, senior staff, county administrators and other district managers on safety and health issues; and conducts and documents all district health and safety training. *Safety and health program inspector* inspects work facilities, job sites and equipment to ensure compliance with federal Occupational Safety and Health Administration (OSHA) regulations; and investigates personal injury and vehicle accidents.
Oregon	• Safety specialist 1 • Safety specialist 2	*Safety specialist 1* primarily coordinates and delivers safety training. *Safety specialist 2* is the safety officer responsible for professional consultation and program oversight. (Both specialists report to regional management, not the agency's Office of Employee Safety.)
Pennsylvania	Safety coordinator in each district	Provides safety resources for the district; implements the centralized plan and ensures compliance; and as furthers individual county-level safety programs.
South Carolina	• District safety staff • County safety staff	*District safety staff* oversees employee safety and health within each district; manages employee training; investigates and reports accidents and injuries; and manages county safety staff where applicable. *County safety staff* oversees employee safety and health within the county, including employee training and accident and injury investigation and reporting, where applicable.
Utah	Regional risk management coordinator	Ensures implementation of safety programs in each region, including coaching and mentoring employees and contractors, and managing workers' compensation and risk management claims; reports directly to region management.

District/Region Safety-Related Staffing: Administrators, Committees, Engineers or Supervisors		
State	**Staff Position(s)**	**Roles and Responsibilities**
Alabama	• Region engineer • District administrator	*Region engineer* provides executive leadership for each region, including safety responsibilities. *District administrator* is a senior-level position managing daily job performance.
Connecticut	• Engineer • Maintenance staff from rail, ferry and public transit	Responsible for operations and project/program inspection.
Oklahoma	• Division engineer • Division safety manager	*Division engineer* has overall responsibility for employee safety. *Division safety manager* is responsible for training, inspection and coordination of compliance requirements for agency employees.
South Dakota	Six-member safety committee in each region (three unit and three nonunit members)	Committee responsibilities include: • Reviewing crew safety meeting forms. • Discussing and formulating safety policies. • Recommending adoption to the region engineer. • Reviewing reported safety and health hazards to uncover any unsafe conditions and practices, and evaluating proposed solutions.
Texas	• All supervisors • Support from safety officer	*All supervisors* are responsible for compliance with the safety program. *Safety officer* collaborates with supervisors by providing: • A specialized focus on occupational safety, environment and health. • Training, field assessment, facility inspections and incident prevention.
Wyoming	• District engineer • District maintenance engineer • District construction engineer • District traffic engineer • District equipment manager	Educates and holds employees accountable to department safety rules and policies.

Communication Practices

Respondents provided information about their communication practices in four topic areas:

- Communication methods.
- Safety meetings.
- Safety manuals.
- Communication challenges.

A **Related Resources** section that follows the final topic area includes publications and web resources provided by respondents or identified through a literature search.

Communication Methods

We asked respondents if they use some common communication methods to share information about the safety and health program with employees. All respondents use the agency web site, and all but the Illinois DOT respondent reported the use of email to disseminate program information. Respondents are least likely to communicate via newsletter. The table below summarizes survey responses.

Communication Methods and Tools					
State/Agency	Web Site	Email	Newsletter	Safety Bulletins	Staff Meetings
Alabama	X	X		X	
CAL FIRE	X	X	X	X	X
CDCR	X	X			X
Connecticut	X	X		X	X
Florida	X	X	X		X
Georgia	X	X			X
Idaho	X	X			X
Illinois	X		X	X	
Kentucky	X	X			X
Louisiana	X	X		X	
Montana	X	X	X		X
New Mexico	X	X			X
North Dakota	X	X		X	X
Ohio	X	X	X	X	X
Oklahoma	X	X		X	X

Communication Methods and Tools					
State/Agency	**Web Site**	**Email**	**Newsletter**	**Safety Bulletins**	**Staff Meetings**
Oregon	X	X	X	X	X
Pennsylvania	X	X	X	X	X
South Carolina	X	X	X		X
South Dakota	X	X		X	X
Texas	X	X	X	X	X
Utah	X	X	X	X	X
Wyoming	X	X	X	X	X

Respondents reported on other ways to communicate with staff. Periodic safety meetings are most common. Agencies also reported on special events such as an annual training day and tailgate/toolbox talks or meetings that allow for staff engagement. The table below summarizes survey responses.

Other Practices Used to Communicate to Employees		
Practice or Activity	**State/Agency**	**Description of Practice or Activity**
Inspections	South Carolina	Facility and commercial driver's license equipment safety inspections.
Observation cards	Utah	ROADS [Recognizing, Observing and Achieving Department Safety] Observation and Conversation Cards are fillable forms used by districts to track employee safety-related activity in a range of behavioral categories.
One-on-one employee interaction	South Dakota, Utah	N/A
Periodic safety meetings	Connecticut	Safety labor management meetings.
	Florida	Mandatory monthly and quarterly safety meetings.
	New Mexico	N/A
	North Dakota	Safety meeting for all employees each spring.
	Oregon	Safety committee meetings.

Other Practices Used to Communicate to Employees		
Practice or Activity	**State/Agency**	**Description of Practice or Activity**
Periodic safety meetings	South Carolina	Monthly statewide safety council meetings; monthly county safety meetings.
Safety alerts	Illinois	N/A
Special events	CDCR	Annual emergency training.
	North Dakota	Training day each fall.
	Oregon	Annual Safety Break.
	Pennsylvania	Safety Stand-Down Days hosted twice a year by each county maintenance office.
	Texas	Statewide calls with leadership and employees throughout the department; health and safety fairs.
Tailgate/toolbox meetings or talks	Connecticut	N/A
	Florida	Daily toolbox talks delivered to operations, maintenance and construction employees.
	Ohio	Daily safety tailgate talks conducted by field managers.
	South Carolina	Tailgate meetings prior to starting work.

Safety Meetings

All responding agencies hold safety meetings that are attended by central office and program/district/region office staff members. Almost two-thirds of respondents hold monthly meetings, and two state DOTs—Florida and Texas—hold monthly, quarterly and annual safety meetings. The table below summarizes survey responses.

Safety Meeting Frequency					
State/Agency					
Alabama	X				
CAL FIRE			X		
Connecticut	X		X		X
Florida[1]		X	X	X	

Safety Meeting Frequency					
State/Agency	Periodically	Monthly	Quarterly	Annually	As Needed
Idaho	X				
Illinois			X		
Kentucky			X	X	
Louisiana		X			
Montana		X	X		
New Mexico[2]		X			
North Dakota				X	
Ohio[3]			X		
Oklahoma		X			
Oregon		X			
Pennsylvania		X	X		
South Carolina[4]		X			
South Dakota		X			
Texas	X	X	X	X	
Utah		X			
Wyoming	X				

1   The agency also conducts daily toolbox talks.

2   Each industrial area is required to hold two safety meetings a month.

3   Sometimes safety meetings are held every other month.

4   Monthly meetings are held with counties and the statewide safety council; the Collision Review Committee meets annually. The agency conducts at least semiannual Statewide Safety Council meetings.

Safety Manuals

Respondents described how often their safety manuals are distributed to employees and, in a few cases, how frequently the manuals are reviewed and updated.

Frequency of Safety Manual Distribution

Respondents were asked how often their agencies distributed an agencywide safety manual to all employees. While survey responses indicated no consensus, almost half of respondents reported distributing the manual after an update. The table below summarizes survey responses.

Safety Manual Distribution Frequency (Agencywide)					
State/Agency	Never	Periodically	When the Manual is Updated	Upon Request	Available to All Staff Online
Alabama	X				
CAL FIRE		X	X		
Connecticut			X		
Georgia			X		
Idaho		X			
Illinois			X		
Kentucky					X
Louisiana			X		
Montana	X				
New Mexico				X (print)	X
North Dakota					X
Ohio			X		
Oklahoma			X		
Oregon	X				X
South Carolina					X
Texas			X		
Utah		X			
Wyoming			X		

Manual Review and Update

Though the survey did not specifically address it, several respondents reported on the frequency of their safety manual's review and update:

- **Florida**. The agency mandates a review and update of the manual every two years in addition to pen-and-ink changes made during nonmandated review periods.

- **Illinois**. The agency conducts an annual review and updates its manual at least every five years.

- **New Mexico**. The agency's manual is updated every three years or as needed.

- **Pennsylvania**. The agency is moving to an annual review and update of its safety manual.
- **Texas**. The agency's Handbook of Safe Practices is published and distributed every two years.

Other agencies provide a safety manual to new employees (Louisiana Department of Transportation and Development and Texas DOT) or require all employees to sign and date a form after reading the manual (South Dakota DOT).

Communication Challenges

Respondents were asked about any challenges their agencies have experienced—and possibly overcome—in communicating the importance of adherence to the safety program. Responses indicated little consensus, with respondents' efforts ranging from changing an entrenched culture to striving for consistency across regions with differing local conditions. The table below summarizes survey responses.

Challenges in Communicating the Importance of the Safety Program		
Type of Challenge	**State**	**Description**
Change management	Florida	Change management has proved to be challenging when implementing updates to training requirements and reporting procedures.
Changing the culture	Kentucky	The agency has "worked hard to change [its] culture and emphasize the importance of safety. It takes time for some employees to change their mindset."
	New Mexico	Rather than following agency policy, some longer-term employees (10+ years of experience) may show new staff "how we do it out in the field."
	Texas	It takes time to encourage employee buy-in and commitment. The agency has invested most of its time in building relationships and reaching an understanding of expectations and roles.
	Utah	The agency continues to face challenges associated with legacy (as in "this is the way we always do it").
Communication methods	Idaho	Employees in remote locations do not have consistent access to email. The agency is communicating more often with videos than written communication to encourage all employees to engage with safety-related content.
	Ohio	Quarterly meetings have helped keep the 12 districts and central office "on the same page."
Management engagement	Illinois	Management apathy is the biggest challenge for the agency's newly revamped program.
	Montana	The respondent noted the lack of follow-up with some managers.

Challenges in Communicating the Importance of the Safety Program		
Type of Challenge	**State**	**Description**
Policy-related issues	Connecticut	The consistent application of policies has been challenging for the agency.
	Louisiana	Employees in Louisiana who receive workers' compensation benefits receive a full paycheck and are allowed to buy back two-thirds of their leave while out on leave (and still accruing leave). This practice "makes it very difficult to get employees to return to work."
Prioritizing safety	Alabama	The respondent noted the ongoing challenge of "making safety a top priority, not just another program of the week."
Regional consistency	North Dakota	The agency finds it challenging to retain the flexibility needed to address local conditions while maintaining a consistent level of expectations and standards across the agency.
	Oregon	The agency continues to implement follow-up actions from its most recent on-the-job fatality in 2014. The respondent noted that "given the 'silos' between our regions and divisions, making safety more consistent and reflective of best practices has been difficult."
Staffing changes	Georgia	Turnover in staff and front-line supervisors has proved challenging for the agency.

Related Resources

The following is a sampling of safety manuals and communications-related publications provided by respondents or identified in a literature search for publicly available documents.

California

Article 2—Health and Safety Program, Chapter 3, Operations Manual, California Department of Corrections and Rehabilitation, January 2018.
http://www.cdcr.ca.gov/Regulations/Adult_Operations/docs/DOM/DOM%202018/2018%20DOM.pdf
This article, which begins on page 124 of the manual (page 133 of the PDF), provides details about "the requirements for establishment, reporting and control of the health and safety management program."

Headquarters Emergency Procedures Handbook, California Department of Corrections and Rehabilitation, July 2016.
See Attachment A.
The purpose of this handbook is to "promote a safe work environment and establish a continuing state of emergency preparedness for the protection of all employees during an emergency." Responsibilities of the building emergency procedures coordinator, managers and employees are detailed in a discussion that begins on page 6 of the report (page 7 of the PDF).

Safety Communications, Safety Handbook, CAL FIRE, January 2017.
http://calfireweb.fire.ca.gov/library/handbooks/1700/1704.pdf
From the document:

Methods of communication include:

- Safety Meetings (Handbook 1703) and Safety Talks/Tailgate Briefings (Handbook 1752).

- Training Programs (Handbook 4000).

- Posted Information (Handbook 1764).

- Written Communications (Handbook 1704).

- Anonymous Hazard Notification (Handbook 1706).

- Labor/Management Safety Committees (Handbook 1703).

Florida

Loss Prevention Manual, State Safety Office, Florida Department of Transportation, November 2010.
http://www.fdot.gov/safety/IndustrialSafety/LPM.pdf
Safety procedures and guidelines of Florida DOT's loss prevention program are outlined in this manual "to reduce and/or eliminate the number of work-related injuries to employees and damage to materials or property due to injuries, illness, vehicle crashes, and incidents." Chapter 1 (page 8 of the PDF) describes the general health and safety responsibilities of leaders within the agency's central office and units as well as the specific responsibilities of safety and health managers and specialists or designated safety representatives. An overview of safety education and training is addressed in Chapter 2 (page 12 of the PDF). Compliance requirements to meet safety standards are presented in Chapter 11 (page 58 of the PDF); Chapter 12 (page 98 of the PDF) provides specific details about training requirements. Chapter 13 (page 103 of the PDF) details plans and programs for various safety incidents.

Kentucky

Employee Safety and Health Manual, Commonwealth of Kentucky Transportation Cabinet, Organizational Management Branch, Office of Human Resource Management, January 2010.
https://transportation.ky.gov/Organizational-Resources/Policy%20Manuals%20Library/Employee%20Safety%20and%20Health.pdf
From the manual's authority and purpose statement: The intent of the KYTC Employee Safety and Health Manual is to familiarize employees with KYTC Safety and Health Program procedures and to emphasize their roles and responsibilities in the prevention of accidents and injuries. The KYTC Safety and Health Program delegates Cabinet managers and supervisors the responsibility of implementing safety and health rules and regulations in their assigned areas.

Training Programs, Employee Safety and Health Branch, Kentucky Transportation Cabinet, March 2018.
See Attachment B.
This document includes a list of safety and health training programs offered by the agency's Employee Safety and Health Branch.

Louisiana

Loss Prevention Safety Manual, Louisiana Department of Transportation and Development, October 2017.
See Attachment C.
Safety rules and regulations are summarized in this manual to ensure compliance with the agency's Loss Prevention Program, which aims to "maintain a safe work environment and create a high level of awareness of safe operating practices." Monthly safety meetings are briefly addressed on page 23 of the manual.

Code of Safe Practices, Louisiana Department of Transportation and Development, 2013.
See Attachment D.
From the introduction: This manual has been developed in order to assist managers and employees in carrying out work activities and operations in a safe manner. Potential hazards have been identified for typical activities and work sites. Safe practices have been written to assist in avoiding these hazards. These practices are not intended as substitutes for employee job training, rather they should serve as a review for performing the tasks safely.

New Mexico

Agency Loss Control Plan, Risk Management Bureau, New Mexico Department of Transportation, 2016.
See Attachment E.
New Mexico DOT's loss control plan addresses a range of health and safety issues, including the responsibilities of the loss control coordinators and committees (page 3 of the plan, page 4 of the PDF), the role of the safety management committee (page 5 of the plan, page 6 of the PDF), and loss control training (page 10 of the plan, page 11 of the PDF).

Safety Handbook, Risk Management Bureau, New Mexico Department of Transportation, 2011.
See Attachment F.
Among the broad range of safety-related topics addressed in this manual are work site safety (Section 3), equipment operation (Section 2), hazard communication program procedures (Section 4) and administrative directives for risk management (Section 10). Section 1 outlines the responsibilities of DOT employees and supervisors (beginning on page 2 of the manual, page 5 of the PDF). Section 6, which begins on page 18 of the manual (page 21 of the PDF), details procedures of the agency's award program. Procedures for conducting a safety committee meeting (Section 7, page 22 of the manual, page 25 of the PDF) and a supervisor's safety meeting (Section 9, page 30 of the manual, page 33 of the PDF) are also included.

Ohio

Employee Health and Safety Standard Operating Procedure, Standard Procedure 220-006(SP), Division of Human Resources, Ohio Department of Transportation, October 2015.
https://www.dot.state.oh.us/policy/PoliciesandSOPs/Policies/220-006(SP).pdf
From page 13 of the procedure:

> XX. Tailgate Safety Talks
> A tailgate safety talk is a short, informational safety meeting which shall be conducted at the crew level on a regular or as-needed basis by first-line supervisors or crew leaders regarding job-related hazards and safe work practices.

A tailgate safety talk should take place when a particular job hasn't been performed for some time, when a new employee joins the crew, or when a job or location poses specific hazards such as high volume, high speed traffic, or limited sight distance approaches to the work area.

Best safety practices recommend that you provide a safety talk before the work day or job task begins. Discussions can include planning the work zone setup, identifying work environment hazards, conducting pre-trip inspections of vehicles and equipment, selecting the right personal protective equipment, and awareness of emergency procedures.

A short recap meeting during or at the end of the work day to discuss work practices, a near miss incident, or a lack of attention to safety is also advised.

All tailgate talks shall be documented with the subject title of the safety talk, name of presenter, and a signed list of attendees.

Pennsylvania

Safety Policy Handbook, Pennsylvania Department of Transportation, January 2018.
https://www.dot.state.pa.us/public/PubsForms/Publications/PUB%20445.pdf
From the introduction:

First level supervisors have the most influence on safety. They work directly with employees, observing employee behavior and work conditions, and they have the authority to address behaviors and conditions that may put employees at unnecessary risk of a work-related injury or illness. As they take an active role in promoting safety, employees are encouraged to do their part to ensure their own safety and the safety of their coworkers.

Management has the most control of safety. Management's duty is to enforce safety policies, establish procedures, and direct resources.

From page 9 of the handbook:

Safety Stand-Down Days
These events provide a forum for safety information to be communicated on a regular and consistent basis, to increase employee awareness, and to promote the reduction of workplace injuries and fleet accidents. Each County Maintenance Office must host this event two times per year and all employees are expected to attend.

South Carolina

Audit Report: Employee Safety Audit Findings and Recommendations, Office of the Chief Internal Auditor, Commission of the South Carolina Department of Transportation, May 2013.
http://www.scdot.org/inside/pdf/Auditor/SafetyAuditWithDeptResponse.pdf
This audit of the South Carolina DOT safety program includes recommendations and the agency's response.

Related Resource:

Safety: OCIA Audit Finding and Recommendations for Updated Responses, Office of the Chief Internal Auditor, Commission of the South Carolina Department of Transportation, April 2015.
http://www.scstatehouse.gov/CommitteeInfo/HouseLegislativeOversightCommittee/Agency
Webpages/DOT/Reports%20&%20Audits%20-
%20Internal%20Audits/Employee%20Safety%20-%20Update%20(April%202015).PDF

This document presents each finding from the May 2013 audit report cited above, along with the auditor's recommendation and two responses from South Carolina DOT (dated May 2013 and April 2015).

Utah

ROADS [Recognizing, Observing and Achieving Department Safety] Observation and Conversation Card, Utah Department of Transportation, undated.
https://www.udot.utah.gov/main/uconowner.gf?n=19977622206716474
This fillable form tracks employee activity (safe or at risk) in the following behavioral categories: personal protective equipment; tools and equipment use; body positioning/protecting; housekeeping; vehicles/mobile equipment; communications; and situational awareness.

Tracking Safety Compliance

Agencies use a variety of tools and methods to track safety-related compliance. Initial survey responses provided limited information about the online systems used to track training and other aspects of the safety program. A follow-up survey that sought more detailed information about these online systems received six responses, with only three respondents describing their online systems. Below we summarize how respondents track safety compliance in three categories:

- Online systems in detail.
- Other online systems, databases and software.
- Other tools and methods.

Online Systems in Detail

Three respondents described the online systems used to administer their safety and health programs. These systems, all commercial off-the-shelf products that have been customized for agency use, are used to track training (CAL FIRE and Kentucky Transportation Cabinet) and injuries and crashes (Georgia DOT). The table below briefly describes each system.

Online Systems That Track Safety Compliance		
State/Agency	**System/Vendor**	**System Description**
CAL FIRE	TargetSolutions	This training system was implemented over three years at a cost of $75 per user (initial cost and ongoing annual maintenance cost). The respondent noted that "training the new user is always a challenge."
Georgia	SafeTrack Oracle Business Intelligence	This system is used to track injuries and crashes. Georgia DOT uses the Oracle Business Intelligence platform for multiple reporting dashboards, including SafeTrack.
Kentucky	Kentucky Enterprise Learning Management System (KELMS)	Implemented in 2015, this enterprisewide training system is used "for the administration, documentation, tracking, reporting and delivery of employee development opportunities." The respondent characterized the system as "slow."

Respondents were asked to identify the features and functions of these systems, and the user actions supported by them. The tables below summarize survey responses.

Online Systems' Features, Functions and Supported User Actions												
State/Agency	System	Allows for a Customized Organizational Structure	Generates User Notifications	Produces Standard Reporting	Produces Customized Reporting	Generates Required OSHA Reporting	Offers Tablet Access	Offers Smartphone Access	Tracks Risk Management Services	Records Injuries/Illnesses	Records Vehicle or Equipment Crashes and Incidents	Tracks Training Requirements
CAL FIRE	TargetSolutions	X		X			X	X				X
Georgia	SafeTrack		X	X	X		X			X	X	
Kentucky	KELMS			X		X			X			

System Assessment

Respondents were asked to indicate their agencies' level of satisfaction with a series of system characteristics using the rating scale of 1 = not at all satisfied to 5 = extremely satisfied. While CAL FIRE is extremely satisfied with its TargetSolutions training system, the other respondents reported significantly lower rates of satisfaction with their systems. The table below presents survey responses.

System Assessment							
State/Agency	System	Ease of Use	Flexibility	Reliability	Ability to Customize	Reporting Features	Overall Satisfaction With the System
CAL FIRE	TargetSolutions	5	5	5	5	5	5
Georgia	SafeTrack	N/A	3	N/A	3	N/A	3
Kentucky	KELMS	3	N/A	2	2	3	2

Other Online Systems, Databases and Software

Other respondents provided more limited information about online systems, databases and software used to administer their safety and health programs. The table below summarizes these survey responses.

Other Online Systems, Databases and Software	
State	**System Description**
Florida	Industrial Safety Information Management System (ISIMS). ISIMS is used to record injuries/illnesses and vehicle crashes/incidents involving agency employees. District staff members enter and retrieve ISIMS data.
Idaho	An in-house-developed system tracks staff compliance. (The agency plans to obtain an off-the-shelf software program.)
Illinois	Unspecified database.
Montana	iAuditor, a mobile phone/tablet application, is used by safety consultants to document inspection activities.
Ohio	The agency plans to purchase a cloud-based safety software package to replace systems developed in-house.
Pennsylvania	Unspecified databases are used to track safety program requirements.
South Carolina	Risk Management Information System (RMIS). RMIS is used to track the status of each DOT vehicle or equipment accident, including any corrective actions imposed upon agency drivers.

Other Tools and Methods

The table below summarizes other tools and methods respondents use to track safety compliance.

Other Tools and Methods Used to Track Safety Compliance		
Tool or Method	**State**	**Description**
Data	Connecticut	Unspecified statistics and data evaluation.
	New Mexico	District offices submit monthly data to the Risk Management Bureau that is used to generate loss-related statistics and data for distribution to agency employees.
	North Dakota	FileNet records. (IBM FileNet Content Manager is a software program used to manage content and documents.)
	Oklahoma	Site visitation, division monthly activity reports and accident/incident reports.
	Oregon	Injury and illness data maintained by the Human Resources Division and data available from the agency's workers' compensation carrier.
	Utah	Periodic inspections and observation cards; trends identified through incident and close call reports.

Other Tools and Methods Used to Track Safety Compliance		
Tool or Method	**State**	**Description**
Forms	South Dakota	Form DOT-301, which is completed and filed after each monthly safety meeting to document topics and discussion.
	Texas	Internal forms capture participation with policy requirements and best practices; some forms are electronic, others are migrating to more mobile options.
Safety meetings and audits	Alabama	N/A
	Georgia	Monthly Statewide Safety Council meetings.
	Wyoming	Regular safety meetings.
Training (including records and systems)	Illinois	Learning management system used for training.
	Kentucky	An unspecified database tracks training and ensures safety requirements are met.
	Ohio	Employee training records system.
	Oregon	Training management software tracks training; staff managing programs such as bloodborne pathogens, hearing and respiration use unspecified in-house systems to track participation.
	South Carolina	South Carolina Enterprise Information System learning management system.
	Wyoming	Training on safety issues and topics.

Related Resources

California

TargetSolutions, Vector Solutions, 2018.
http://www.targetsolutions.com/
From the web site: TargetSolutions is the No. 1 choice for online fire department training. The system features more than 160 hours of EMS [emergency medical services] recertification training, more than 60 hours of NFPA [National Fire Protection Association] firefighter training, and applications for tracking firefighter compliance.

Florida

Industrial Safety Information Management Systems (ISIMS), Industrial Safety, Florida Department of Transportation, 2018.
http://www.fdot.gov/safety/11-IndustrialSafety/IndSafety-1.shtm
From the web site: The Loss Prevention Program and Manual requires all work related employee injuries/illnesses and vehicle crashes and incidents to be recorded and reported. An Industrial Safety Information Management System (ISIMS) is maintained by the State Safety Office. ISIMS is a system where data on all FDOT injuries/illnesses and vehicle crashes/incidents involving FDOT employees are recorded. The system allows electronic data

input and retrieval by Districts. It provides data that is utilized for program planning and monitoring program implementation.

Kentucky

Kentucky Enterprise Learning Management System (KELMS)**, Commonwealth of Kentucky, 2018.**
https://personnel.ky.gov/Pages/TrainingKELMS.aspx
From the web site: The Kentucky Enterprise Learning Management System (KELMS) is an enterprise-wide software application for the administration, documentation, tracking, reporting and delivery of employee development opportunities. The system was launched on July 1, 2015 and is currently being used by the Executive and Legislative branches of state government.

Montana

iAuditor, SafetyCulture, 2018.
https://safetyculture.com/iauditor/
From the web site: iAuditor is an inspection app used to empower your workers in the field. Combined with the web platform, iAuditor provides visibility and insights to help raise safety and quality standards across an organization. Your team can collect consistent data, standardise operations, send reports, identify failed areas and get problems resolved.

Documenting Safety Processes

Most responding agencies document safety processes through safety manuals and agency policies and procedures. The table below summarizes survey responses.

Methods Used to Document Safety Processes						
State	Forms	Intranet	Policies and Procedures	Manual or Handbook	Reporting	Training
Alabama			X	X		
Connecticut			X		X	
Florida			X	X		
Georgia			X			X
Idaho			X			
Illinois				X[1]		
Kentucky	X					X
Montana		X		X		
New Mexico			X			
North Dakota		X		X		

Methods Used to Document Safety Processes						
State	**Forms**	**Intranet**	**Policies and Procedures**	**Manual or Handbook**	**Reporting**	**Training**
Ohio			X			
Oklahoma			X	X		
Oregon			X			X
South Carolina		X	X			
South Dakota	X^2					
Texas				X		
Utah			X^3			
Wyoming			X	X		

1   Employee Safety Code.

2   Supervisors are required to hold at least one crew safety meeting each month. Form DOT-301 is completed during the meeting; a copy of the form is forwarded to the operations safety coordinator for review and file retention for one year.

3   The agency has a written safety management system that outlines roles and responsibilities, senior management commitment, employee involvement, process for internal reviews and inspections, and continuous improvement. The system also defines operational controls (e.g., lockout, confined space, fall protection).

Other documentation practices include:

- *Job hazard analysis (Georgia)*: The agency has implemented job hazard analysis (JHA) as part of the daily safety briefings held by each field unit. This practice is tracked by managers and safety officers.

- *Safety and Risk Management Administrative Directives (New Mexico)*: These directives are reviewed by the agency's policy and procedures committee every two years; current practices are updated as needed.

- *Job hazard analysis (North Dakota)*: A recent National Cooperative Highway Research Program (NCHRP) synthesis (see **Related Resources** below) described the purpose of North Dakota DOT's JHA worksheet—"to document the various tasks that are accomplished by field personnel and identify the potential hazards associated with the task, which include issues related to the work location, the environmental hazards, and particularly risky characteristics of the task."

- *Accident and incident reports (Oklahoma)*.

- *Job safety analysis (Utah)*: The agency's safety manual describes its job safety analysis (JSA) as a "task specific training tool" used to analyze jobs and identify existing and potential hazards.

North Dakota

NCHRP Synthesis 509: Highway Worker Safety, John A. Gambatese, David Hurwitz and Zachary Barlow, 2017.
Report available at https://www.nap.edu/download/24776
This synthesis report includes a discussion of North Dakota DOT's use of a JHA worksheet.
From page 72 of the report (page 80 of the PDF):

> A visible manifestation of this agency trend toward leading indicators is the implementation of the Job Hazard Analysis, a worksheet that is consistent with the industry standard JSA. A copy of the blank worksheet, courtesy of NDDOT [North Dakota DOT], is included in Appendix E. The purpose of the worksheet is to document the various tasks that are accomplished by field personnel and identify the potential hazards associated with the task, which include issues related to the work location, the environmental hazards, and particularly risky characteristics of the task. One section provides a risk rating table so that the activity can be rated in relation to other risky tasks that could be undertaken and employees warned of the risks associated with the task. This risk rating table is shown in Figure 27.

A sample of North Dakota DOT's JHA form is included as Appendix E: North Dakota: Job Hazard Analysis Form (see page 132 of the report, page 140 of the PDF).

Utah

Safety and Health Manual, Utah Department of Transportation, March 2013.
https://www.udot.utah.gov/main/uconowner.gf?n=22185504109947669
See page 30 of the handbook (page 40 of the PDF) for a discussion of the agency's use of a JSA. The manual includes this purpose statement for the JSA:

> To develop a method by which the RE's [resident engineer's] Staff and Contractors can analyze the jobs they perform, and to identify the existing and potential hazards associated with each job step and establish controls for them. The JSA should be used as a task specific training tool to instruct employees, inspectors, and visitors of potential hazards and required safety precautions.

A sample JSA is included as Appendix E (see page 177 of the PDF). A JSA form used by Region 4 is available at https://www.udot.utah.gov/main/uconowner.gf?n=26395108488769901. This Excel workbook contains two spreadsheets.

Encouraging Staff Engagement

Respondents were asked to describe the policies or practices that have proved to be effective in creating active interest, participation and accountability among staff members with regard to the safety program. The following highlights respondents' practices.

Award or Recognition Programs

Annual Safety Award Program (New Mexico): State winners are selected for 12 categories of employees with the highest exposure to risk (for example, maintenance staff). The agency's Safety Handbook (see **Related Resources** below) describes how the awards are determined, including the computation of the Disabling Injury Index and other formulas.

Individual state winners and accident-free crews are presented certificates; plaques are presented to the best district in Industrial Safety (least lost-time injuries and days lost) and Vehicle Safety (lowest combined frequency rate).

Positive reinforcement (New Mexico): When an employee is seen doing something safe (for example, wearing all required personal protective equipment), he/she receives a keychain or lunch bag.

Safe Performance Program (Ohio): Employees participating in this quarterly program demonstrate safety-related knowledge by completing questionnaires, participating in training and demonstrating safety through job performance. Employees can meet the requirements of each quarter's safety level and earn a small item imprinted with the Ohio DOT logo. See **Related Resources** below for more information.

Focus on Safety (Oklahoma): This program outlines the agency's safety vision and expectations and provides awards to employees.

Rewards program in process (South Carolina): The agency is developing a rewards program that compensates employees reporting no at-fault equipment/vehicle accidents and no injuries requiring more than basic first aid. The new program is an attempt to reduce the number of vehicle/equipment accidents and injuries.

Special Events

Safety Break (Oregon): The agency began holding an annual Safety Break in 2011 in response to employee fatalities during 2009 and 2010. The event is observed by all employees and participation is reported to the agency's employee safety manager and executive leadership. The Safety Break began with a set "script" of activities and has evolved over time so now individual crews or office staff members conceive of their own innovative activities. The respondent noted that this annual activity "has been taken over by staff and they feel a tremendous sense of ownership."

Committees and Work Groups

Innovators! Teams (Florida): These teams are established throughout the agency's 10 districts as "a means of empowerment." The agency uses "Innovation in a Box" to enable small groups and teams to be successful and create a "culture of innovation."

Work groups (North Dakota): Employee-based work groups are used to solve problems.

Safety meetings (South Carolina): Monthly county safety meetings and statewide safety meetings allow for feedback and dialogue between employees and safety staff. As part of the agency's strategic plan, safety staff members visited all employees statewide, which "generated a lot of feedback from employees including their concerns and ideas for improving safety."

ROADS committees (Utah): These employee safety committees, associated with the agencywide ROADS (Recognizing, Observing and Achieving Department Safety) program, are used to actively engage employees in their work locations by soliciting feedback to help improve agency programs.

Safety as a Shared Responsibility

- Everyone is responsible for safety. The agency encourages buy-in or ownership as a general practice (Alabama).

- The agency has sought "to drive a culture of safety where safety is everyone's responsibilit[y], and therefore give each employee the power to call out anything that may be a potential safety issue" (Georgia).

- Employee engagement and a focus on behavior are key. The agency's Mission Zero safety program reflects an agencywide commitment to zero injuries, lost time, preventable incidents and fatalities. The respondent noted the importance of employee awareness of "the correlation between hazards, near misses, minor incidents, major incidents and fatalities" (Texas).

In other practices, safety language is added to all job descriptions prepared by Montana DOT, and Idaho Transportation Department provides regular communication about the importance of employee safety, with an emphasis on a "we care" approach.

Related Resources

Florida

"Innovation and the Journey," Jim Boxold, *From the Road Blog*, Florida Department of Transportation, May 2016.
https://communications.transportation.org/wp-content/uploads/sites/2/2017/05/10d-Florida-blog.pdf
The blog maintained by the Florida DOT secretary included the following post that describes what's next for the Innovators Team:

Now that the Innovators Team has been in existence for around four years, what have we done to make the process easier?

- We created the District/CO [central office] Innovator! Teams to deliver the message and to implement the ideas quicker.

- We produced an on-line submittal form—we have both an "Intranet" and an "Internet" site. This will cover both our employees and our external transportation partners. The tool is very easy to find and use to submit your idea.

- We selected i5 Tools—after researching seven innovation training companies with experience in the public and private sectors, we chose Juiceinc i5 Innovation in a Box as the process to be used. We completed one set of training and will do another round of training as well.

Related Resource:

Innovators! Update, Florida Department of Transportation No. 2, Fall 2015.
https://www.juiceinc.com/files/documents/FDOT-Innovators-Update-Newsletter.pdf
This newsletter offers success stories resulting from the agency's focus on innovation.

New Mexico

Safety Handbook, Risk Management Bureau, New Mexico Department of Transportation, 2011.
See Attachment F.
See Section 6, Annual Safety Award Program Procedures, which begins on page 18 of the manual (page 21 of the PDF), for details of this award program.

Ohio

Safe Performance Program CY 2018, Ohio Department of Transportation, 2018.
See Attachment G.
From the program details: All fulltime permanent employees are eligible for the program. Each employee will be proactive in their own safety. All employees may participate and complete a safety questionnaire to assist the District Safety Department develop and continue a solid workplace safety program. In addition, they will be able to gain and demonstrate knowledge through monthly online trainings and review questions. Participants will take part in a quarterly trainings and videos. Lastly, employees will need to be able to demonstrate safety through their own safe performance. The District Safety Office will keep track of levels achieved for each employee. As an employee performs the safety activities and demonstrates their own safety they will be able to earn a level each quarter. The program will be one year in length. A level may be earned each quarter. A quarter is defined January-March, April-June, July-September, and October-December. Employees that achieve the level for that quarter will be recognized with that level item after that quarter has ended. An individual has the ability to obtain all four levels in the program year.

Texas

"TxDOT's Safety Culture: Mission Zero," Jerral W. Wyer, Occupational Safety Division, Texas Department of Transportation, *2015 Materials and Construction Spring Meeting*, Western Association of State Highway and Transportation Officials, Spring 2015.
http://www.washto.org/pdf/matcon/spring2015/1---JWyer%20-%20TxDOT_Safety_Culture_WASHTO_San_Antonio_2015.pdf
This meeting presentation describes the agency's Mission Zero program and includes a series of slides (50 through 55) that address managing and communicating a safety and health system.

Utah

UDOT Region 4 Performance Model, Utah Department of Transportation, 2016.
https://www.udot.utah.gov/main/uconowner.gf?n=12235025570371822
See page 15 of this report for a discussion of employee safety, including the region's goals for 2017 in connection with the ROADS program. Accomplishments in 2016 include:

- 43 percent participation regionwide in ROADS observation program.

- 9 percent reduction in personal injuries from fiscal year 2015 (FY15) to FY16.

- 10 percent reduction in severity of general liability claims.

- Implementation of the Region 4 Performance Awards Program.

- Implementation of the job safety analysis program.

- Training emphasis on reducing "risk-taking" behaviors.

- Monthly safety newsletter published to promote safety discussions and awareness among teams.

Safety Program Direction

Some agencies are only beginning to formalize safety programs or have safety programs under review:

- Alabama DOT's overall safety program is just beginning to evolve into a formalized departmentwide program. The respondent noted that the more formalized program can be administered "across the department with consistent focus and compliance."

- Connecticut DOT is reviewing its safety program "for effective and appropriate structure."

- Idaho Transportation Department is currently developing "a more formalized safety plan."

Other Safety Program Resources

Two respondents provided procedural documents and forms used to administer their safety and health programs.

Kentucky

The Employee Safety and Health Branch of the Office of Human Resource Management recently developed and implemented new procedures and forms for reporting health and safety issues. Below is a sampling of forms used by the agency:

Personal Protective Equipment (PPE) Acknowledgment, TC 25-3, Employee Safety & Health, Office of Human Resource Management, Kentucky Transportation Cabinet, May 2017.
See Attachment H.

Notice of Safety Violation, TC 25-105, Employee Safety & Health, Office of Human Resource Management, Kentucky Transportation Cabinet, June 2017.
See Attachment I.

Jobsite Setup Inspection, TC 25-110, Employee Safety & Health, Office of Human Resource Management, Kentucky Transportation Cabinet, June 2017.
See Attachment J.

Injury & Accident Investigation, TC 25-155, Employee Safety & Health Branch, Office of Human Resource Management, Kentucky Transportation Cabinet, May 2017.
See Attachment K.

Job Briefing, TC 25-163, Employee Safety & Health Branch, Office of Human Resource Management, Kentucky Transportation Cabinet, June 2017.
See Attachment L.

Safety Risk Report, TC 25-164, Employee Safety & Health Branch, Office of Human Resource Management, Kentucky Transportation Cabinet, July 2017.
See Attachment M.

New Mexico

Below is a sampling of New Mexico DOT's safety and health directives and policies:

Emergency Response for Petroleum and Hazardous Material Spills, Administrative Directive 809, New Mexico Department of Transportation, December 2017.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-809_EMERGENCY_RESPONSE_FOR_HAZARDOUS_MATERIAL_SPILLS.pdf

Reporting Accidents, Incidents, On the Job Injuries and Potential Liability Claims, Administrative Directive 801, New Mexico Department of Transportation, June 2017.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-801_REPORTING_ACCIDENTS_INCIDENTS_AND_POTENTIAL_LIABILITY_CLAIMS.pdf

Workers' Compensation Injury Management, Administrative Directive 805, New Mexico Department of Transportation, October 2016.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-805-WORKER-COMPENSATION-INJURY-MANAGEMENT-12-2011.pdf

Use of State Vehicle, Administrative Directive 903, New Mexico Department of Transportation, April 2016.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-903-USE_OF_STATE_VEHICLE.pdf

Pre-Existing and Post-Employment Impairments, Administrative Directive 601, New Mexico Department of Transportation, June 2015.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-601_PRE-EXISTING_and_POST-EMPLOY_IMPAIRMENTS.pdf

Facility Safety and Loss Control Inspections, Administrative Directive 803, New Mexico Department of Transportation, August 2014.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD_803_FACILITY_SAFETY_AND_LOSS_CONTROL_INSPECTIONS_final_8_1_14.pdf

Workplace Violence Response and Mitigation, Administrative Directive 812, New Mexico Department of Transportation, August 2014.
https://elm.share.state.nm.us/nms_content/DOT_ADAcknowledgement4/AD_812_WORKPLACE_VIOLENCE_RESPONSE_AND_MITIGATION_final_8_1_14.pdf

Employee Training and Staff Development, Administrative Directive 614, New Mexico Department of Transportation, March 2014.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-614_EMPLOYEE_TRAINING_DEVELOPMENT.pdf

Personal Protective Equipment, Administrative Directive 802, New Mexico Department of Transportation, December 2013.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-802_PERSONAL_PROTECTIVE_EQUIPMENT.pdf

Chemical Hazard Communication Program, Administrative Directive 804, New Mexico Department of Transportation, October 2013.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-804_CHEMICAL_HAZARD_COMMUNICATION_PROGRAM.pdf

Safety Management Committee, Administrative Directive 814, New Mexico Department of Transportation, June 2013.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-814_SAFETY_MANAGEMENT_COMMITTEE.pdf

Bloodborne Pathogens Program, Administrative Directive 816, New Mexico Department of Transportation, April 2013.
http://dot.state.nm.us/content/dam/intrans/library/directives/AD-816_BLOODBORNE_PATHOGENS_PROGRAM.pdf

---

Note: The next two sections of this Preliminary Investigation summarize survey responses to questions posed only to California state agencies about the following topics:

- Administering an Injury and Illness Prevention Program.
- Training practices.

Administering an Injury and Illness Prevention Program

The California state agencies surveyed for this project were asked about administration of the agencies' Injury and Illness Prevention Program (IIPP).Title 8, Section 3203 of the California Code of Regulations requires every employer to develop and implement an effective IIPP.

Only the CAL FIRE respondent reported on a formalized IIPP, noting that each region and unit safety officer inspects the IIPP annually to ensure IIPP-7 forms are signed (this form confirms an employee's review of the plan). Training is required annually and documented using the IIPP-7 form. By customizing the IIPP Guide for Managers and Supervisors (IIPP-1) template, a written program is created for each facility or workplace. A copy of the IIPP is maintained at each worksite.

California Department of Corrections and Rehabilitation does not currently maintain a formal IIPP but is developing an IIPP and a centralized safety program. Institution fire chiefs are currently responsible for administering the safety program at each correctional and rehabilitation institution.

Related Resources

Injury and Illness Prevention Program, CAL FIRE, January 2017.
http://calfireweb.fire.ca.gov/library/handbooks/1700/1701.pdf
This document describes the components of the agency's IIPP and includes links to documents and forms with supporting information.

Handbooks, CAL FIRE, 2012.
http://calfireweb.fire.ca.gov/library/handbooks/
Scroll down to 1700, Safety, to see a series of template documents, procedures and exhibits.

Procedure 1701a, Injury and Illness Prevention Program Checklist, Handbook 1701, Injury and Illness Prevention Program, CAL FIRE, undated.
http://calfireweb.fire.ca.gov/library/handbooks/1700/PROCEDURES_1701a.pdf
From the objective: Download and customize the IIPP Guide for Managers and Supervisors (IIPP-1) template to create a written program for each specific facility or workplace address. Complete the checklist for all IIPP reviews and updates.

Procedure 1701b, Injury and Illness Prevention Program Review, Handbook 1701, Injury and Illness Prevention Program, CAL FIRE, undated.
http://calfireweb.fire.ca.gov/library/handbooks/1700/PROCEDURES_1701b.pdf
From the objective: This sheet is completed each time the Injury and Illness Prevention Program (IIPP) is reviewed or modified. A signed copy of this form shall be included in the workplace IIPP to follow the last page of the IIPP-1 template.

Training Practices

The following summarizes how the two state agency respondents train employees regarding safety:

CAL FIRE. The agency hosts periodic workshops and conducts annual training. In-house in-person classes are offered in conjunction with annual safety conferences and new employee orientation.

California Department of Corrections and Rehabilitation. The agency conducts annual emergency procedures training for all staff. Some individual institutions may provide more frequent general training. Specific safety training (for example, vehicle operation) is conducted at individual institutions. In-house in-person and train the trainer classes are offered, as is new employee orientation.

Related Resources

Handbooks, CAL FIRE, 2012.
http://calfireweb.fire.ca.gov/library/handbooks/
Scroll down to 4000, Training, to find a wide range of training-related materials.

Safety Education and Training, CAL FIRE, June 2017.
http://calfireweb.fire.ca.gov/library/handbooks/1700/1705.pdf
This document describes the agency's training practices and requirements, and includes links to related documents. Note that the links to "(DOC)" publications are not operational.

Contacts

The individuals below participated in online surveys that gathered information for this Preliminary Investigation.

State Departments of Transportation

Alabama

Sam Martin
Statewide Safety Coordinator
Alabama Department of Transportation
334-242-6919, martins@dot.state.al.us

Connecticut

Vicki Arpin
Administrator, Human Resources
Connecticut Department of Transportation
860-594-3100, vicki.arpin@ct.gov

Florida

Mark B. Eacker
Administrator, Occupational Safety and Health Programs
Florida Department of Transportation
850-414-4176, mark.eacker@dot.state.fl.us

Georgia

Brian Robinson
Deputy Human Resources Director, Employment Relations and Safety
Georgia Department of Transportation
404-631-1516, brobinson@dot.ga.gov

Idaho

Brenda Williams
Chief Human Resources Officer
Idaho Transportation Department
208-334-8010, brenda.williams@itd.idaho.gov

Illinois

Cheryl Neff
Manager, Occupational Safety and Health Unit
Illinois Department of Transportation
217-546-3766, cheryl.neff@illinois.gov

Kentucky

Jolene Parris
Executive Director, Office of Human Resource Management
Kentucky Transportation Cabinet
502-782-4769, jolene.parris@ky.gov

Louisiana

Haley Antee
Loss Prevention Director, Section 50
Louisiana Department of Transportation and Development
225-242-4676, haley.antee@la.gov

Montana

Keni Grose
Administrator, Human Resources and Occupational Safety Division
Montana Department of Transportation
406-444-6048, kgrose@mt.gov

New Mexico

Aaron Peinado
Management Analyst/Supervisor, Risk Management Bureau
New Mexico Department of Transportation
505-795-2476, aaron.peinado@state.nm.us

North Dakota

Clyde Ereth
Safety Coordinator, Maintenance Division
North Dakota Department of Transportation
701-425-9867, caereth@nd.gov

State Departments of Transportation

Ohio

Brian Brown
Deputy Director, Division of Human Resources
Ohio Department of Transportation
614-466-5869, brian.brown@dot.ohio.gov

Oklahoma

John Coleman
Safety Manager, Human Resources
Oklahoma Department of Transportation
405-521-3870, jwcoleman@odot.org

Oregon

David Solomon
Employee Safety Manager
Oregon Department of Transportation
503-378-8513,
david.solomon@odot.state.or.us

Pennsylvania

Melvin McMinn
Division Chief, Employee Safety
Pennsylvania Department of Transportation
717-783-2683, mmcminn@pa.gov

South Carolina

Kenny Eargle
Director, Occupational Safety and Health
South Carolina Department of Transportation
803-737-1161, earglekb@scdot.org

South Dakota

Carol Evans
Safety Coordinator
South Dakota Department of Transportation
605-773-5059, carol.evans@state.sd.us

Texas

Sam Salazar
Director, Occupational Safety Division
Texas Department of Transportation
512-416-3363, samuel.salazar@txdot.gov

Utah

Christopher Mabey
Manager, Safety and Risk Program
Utah Department of Transportation
801-971-8381, mabey_c@yahoo.com

Wyoming

Brian Foster
Manager, Human Resources
Wyoming Department of Transportation
307-777-4485, brian.foster@wyo.gov

California State Agencies

Mary Sue Paul
Associate Director, Human Resources
California Department of Corrections and Rehabilitation
916-323-0100, marysue.paul@cdcr.ca.gov

Curtis Brown
Safety Chief
California Department of Forestry and Fire Protection (CAL FIRE)
916-661-8808, curtis.brown@fire.ca.gov

Appendix A: Survey Questions

Two surveys were distributed for this project: an initial survey that gathered most of the results presented in this Preliminary Investigation and a brief follow-up survey that sought information about online systems used to administer the safety and health program.

Initial Survey

The following survey was presented to members of the AASHTO Committee on Human Resources and selected California state agencies. *Note*: Two sections of the survey were provided to California state agencies only.

Organizational Structure

1. Please describe the oversight body responsible for coordinating your agency's safety program.

2. Which department or division in your agency is responsible for administering the safety program?

3. If available, please provide a link to an organizational chart or other document that illustrates the roles and responsibilities of agency staff, at all levels, responsible for overseeing or ensuring compliance with your agency's safety program. Send any files not available online by email.

4. Are the roles and responsibilities for ensuring compliance with the safety program decentralized in your agency? That is, are staff members in your agency's program/district/region offices responsible for some degree of compliance with your agency's overall safety program?

Decentralized Compliance With the Safety Program

Respondents who answered "No" to Question 4 above were presented with the following questions about staffing and roles and responsibilities.

1. Please identify the staff positions outside the central office responsible for overseeing compliance with some aspect of your agency's safety program.

2. Please briefly describe these staff members' roles and responsibilities.

Program Administration (for state departments of transportation only)

1. Please briefly describe how your agency documents safety-related processes and procedures.

2. What tools or methods does your agency use to track staff compliance with safety program requirements?

Communication

1. Please identify below the method(s) used to communicate to employees about your agency's safety program. Select all that apply.

    - Web site.
    - Email.
    - Newsletter.
    - Safety bulletins.

- Staff meetings.
- Other (please describe).

2. How frequently does your agency hold safety meetings that are attended by central office and program/district/region office staff members? Select all that apply.
    - Never.
    - Periodically, using no formal schedule.
    - Monthly.
    - Quarterly.
    - Annually.
    - Other (please describe).

3. How often does your agency distribute an agencywide safety manual to all employees? Select all that apply.
    - Never.
    - Periodically, using no formal schedule.
    - When the manual is updated.
    - Monthly.
    - Quarterly.
    - Annually.
    - Other (please describe).

4. Please describe the policies or practices your agency has found to be effective in creating active interest, participation and accountability among staff members with regard to the safety program.

5. Please describe any challenges your agency has experienced (and possibly overcome) in communicating the importance of adherence to the safety program.

Injury and Illness Prevention Program (for California state agencies only)

Title 8, Section 3203 of the California Code of Regulations requires every employer to develop and implement an effective Injury and Illness Prevention Program (IIPP).

1. Please describe how your agency fully involves all employees, supervisors and management in ensuring compliance with the IIPP.

2. Please describe how your agency ensures that identified hazards are corrected in an appropriate and timely manner.

3. Please describe how your agency provides effective training on the requirements of the IIPP.

4. Please provide any additional information about your agency's monitoring efforts or other practices to ensure compliance with the IIPP.

Training (for California state agencies only)

1. Please briefly describe how your agency trains employees regarding safety. (Below you'll be asked to provide more details about the types of classes offered and frequency of training.)

2. What types of classes are provided in your agency's training program? Select all that apply.
    - In-house in-person classes.

- In-house online courses.
- External online courses.
- Train the trainer classes.
- In-house classes delivered by a third party.
- External classes delivered by a third party.
- Annual safety conferences.
- Other (please describe).

3. How frequently do you provide training to employees in jobs that require safety training? Select all that apply.
   - New employee orientation.
   - Monthly.
   - Quarterly.
   - Annually.
   - Other (please describe) .

4. If available, please provide links that describe the safety-related training classes provided by your agency. Send any files not available online by email.

Wrap-Up

1. If available, please provide links to other documents related to your agency's safety program and how it is administered. These might include a safety program manual, policies and procedures to report and follow up on safety-related incidents, and samples of communication related to the safety program. Send any files not available online by email.

2. Please use this space to provide any comments or additional information about your answers above.

Follow-Up Survey

The following survey was distributed to individuals responding to the initial survey to gather information about the online systems that agencies use to help administer the safety and health program.

For All Respondents

Does your agency use an online system to help administer its employee-focused safety program?

For Agencies Not Using an Online System

Does your agency have an interest in or plans to implement an online system to help administer its safety program? If yes, please describe your agency's interest in or plans for a new system.

For Agencies Using an Online System

System Description

1. What type of online system does your agency use in connection with its safety program? Select all that apply.
   - Enterprise (agencywide use).

- Desktop-based (individual desktop use).
- Software developed in-house.
- Software developed by a vendor specifically for our agency.
- Commercial off-the-shelf (COTS) product.
- COTS product customized for agency use.
- Other (please specify).

2. What is the name of your agency's system?

3. If your agency uses a commercial product, what are the names of the product and the vendor?

4. If available, please provide links below to documentation relating to the online system. Send any files not available online to Chris Kline at chris.kline@ctcandassociates.com.

System Features and Use

1. What features and functions are supported by your agency's system (even if your agency is not currently using them)? Select all that apply.
   - Allows for a customized organizational structure.
   - Allows for designation of roles.
   - Generates user notifications.
   - Produces standard reporting.
   - Produces customized reporting.
   - Offers tablet access.
   - Offers smartphone access.

2. Please describe other features and functions of your agency's system that do not appear in the list above.

3. Please describe the user actions the system supports. Select all that apply.
   - Recording inspection data.
   - Recording injuries/illnesses.
   - Monitoring injuries/illnesses.
   - Recording vehicle or equipment crashes/incidents.
   - Monitoring vehicle or equipment crashes/incidents.
   - Recording corrective actions.
   - Monitoring corrective actions.
   - Tracking training requirements.
   - Generating reports (required OSHA reporting).
   - Generating reports (other agency reporting).

4. Please describe other user actions your system supports that do not appear in the list above.

System Implementation and Costs

1. When did your agency implement the system?

2. How long did it take to implement the system?

3. What was the total cost to implement the system?

4. What are the ongoing annual maintenance costs for the system?

System Assessment

1. Please indicate your agency's level of satisfaction with each system characteristic listed below using the rating scale of 1 = not at all satisfied to 5 = extremely satisfied.

   - Ease of use.
   - Flexibility.
   - Reliability.
   - Ability to customize.
   - Reporting features.
   - Overall agency satisfaction with the system.

2. Please describe any challenges your agency has experienced in using the system.

3. Is your agency planning to make any changes to the current system or its use? If yes, please describe the changes planned for the current system or its use.

Wrap-Up

Please use this space to provide any comments or additional information about your previous responses.