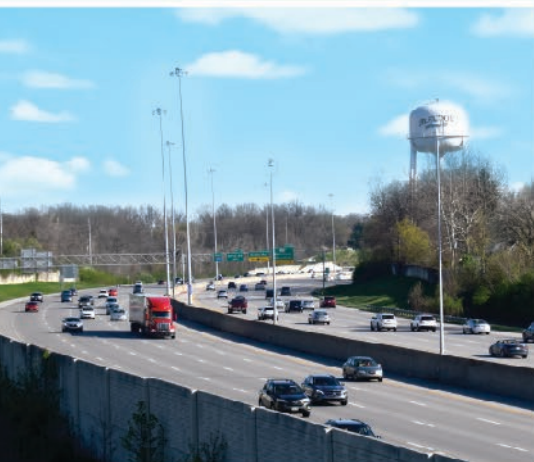


Organizational Safety Culture Self-Assessment for Transportation Agencies



Resource List



Photos Source: FHWA



U.S. Department of Transportation
Federal Highway Administration

FHWA-SA-24-028

ZERO IS OUR GOAL
A SAFE SYSTEM IS HOW WE GET THERE

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SI* (MODERN METRIC) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
AREA				
in ²	square inches	645.2	square millimeters	mm ²
ft ²	square feet	0.093	square meters	m ²
yd ²	square yard	0.836	square meters	m ²
ac	acres	0.405	hectares	ha
mi ²	square miles	2.59	square kilometers	km ²
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft ³	cubic feet	0.028	cubic meters	m ³
yd ³	cubic yards	0.765	cubic meters	m ³
NOTE: volumes greater than 1000 L shall be shown in m ³				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact degrees)				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C
ILLUMINATION				
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²
FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N
lbf/in ²	poundforce per square inch	6.89	kilopascals	kPa

APPROXIMATE CONVERSIONS FROM SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
AREA				
mm ²	square millimeters	0.0016	square inches	in ²
m ²	square meters	10.764	square feet	ft ²
m ²	square meters	1.195	square yards	yd ²
ha	hectares	2.47	acres	ac
km ²	square kilometers	0.386	square miles	mi ²
VOLUME				
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m ³	cubic meters	35.314	cubic feet	ft ³
m ³	cubic meters	1.307	cubic yards	yd ³
MASS				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
TEMPERATURE (exact degrees)				
°C	Celsius	1.8C+32	Fahrenheit	°F
ILLUMINATION				
lx	lux	0.0929	foot-candles	fc
cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.
(Revised March 2003)

TABLE OF CONTENTS

INTRODUCTION	1
RESOURCE LIST	2
INTERNAL SAFETY CULTURE.....	2
PROGRAMMATIC SAFETY INTEGRATION.....	5

LIST OF ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
DOT	Department of Transportation
FHWA	Federal Highway Administration
ITE	Institute of Highway Engineers
LRSP	Local road safety plan
MPO	Metropolitan planning organization
NCHRP	National Cooperative Highway Research Program
NHI	National Highway Institute
SHSP	Strategic Highway Safety Plan
SS4A	Safe Streets and Roads For All
SSA	Safe System Approach
TZD	Toward Zero Deaths

INTRODUCTION

Although the transportation community has made significant safety improvements in the past decade, there is still much work to be done to keep the roads safe for all users of the transportation system. Thanks to the Safe System Approach, we remind ourselves that safety is a shared responsibility and safety commitment should start at “home”—within an organization.

Safety can be defined as the absence of risk or danger.¹ Road safety culture includes the shared values, actions, and behaviors that demonstrate a commitment to safety over competing goals and demands. Organizational road safety culture is one of two major aspects of road safety culture (the other aspect is public road safety culture). It is the extent to which an organization values and pursues road safety. In an organization that prioritizes organizational road safety culture, the organization emphasizes safety in its internal strategic plan and operation procedures and its employees make safe decisions when using the roads. Furthermore, in a transportation organization with a strong organizational road safety culture, employees understand safety as a priority and have safety in mind when planning, designing, constructing, and maintaining the road system. Employees regularly communicate the importance of road safety with colleagues. Leadership staff are vocal supporters of safety and empower employees to seek innovative approaches to improving safety even if safety is not explicitly a part of everyone’s job title.

The Federal Highway Administration (FHWA) developed a toolkit for transportation organizations like yours to determine the organization’s maturity level (i.e., degree of capability or readiness) of organizational road safety culture and identify opportunities for improvements. The goal of the toolkit is to focus transportation agency resources and actions to systematically improve an agency’s organizational road safety culture.

As the description above indicates, there are two parts of organizational road safety culture: **internal safety culture** and **programmatically safety integration**. With that in mind, the toolkit components are divided into these two focus areas.

Each focus area’s self-assessment has three components:

- **Questionnaires:** Two questionnaires that organizations can use to determine their levels of maturity across a variety of areas.
- **Improvement Strategies:** Example improvement strategies that organizations can use to advance their level of maturity for each area.
- **Improvement Plan Template:** Template that organizations can use as a basis for developing a plan to implement their improvement strategies.

In addition, there are two companion documents: 1) a list of resources related to road safety culture; and 2) an instruction manual for using the toolkit.

This document contains the Resource List only. Refer to the resources listed in this document to enhance the maturity of your organization’s road safety culture. See the full toolkit for the other components and companion documents.

¹ <https://rspcb.safety.fhwa.dot.gov/RSF/Unit1.aspx>

RESOURCE LIST

Resources that organizations can use to help enhance the maturity of their organizational road safety culture are provided below (note that some of these resources are websites that may need to be searched to access the needed information). They are separated into the two parts of organizational road safety culture:

- Internal safety culture
- Programmatic safety integration

INTERNAL SAFETY CULTURE

Resources related to internal safety culture are listed in Table 1. These resources are from a variety of organizations.

The resources are organized by the dimensions used throughout the questionnaire. Listed elements of each resource include its relevant dimension(s), its title, the organization that developed it, its format (i.e., website or document), and a description of its contents. The five dimensions of internal safety culture are:

1. Leadership
2. Policy
3. Capacity Building and Training
4. Employee Engagement
5. Organizational Commitment to Support Road Safety

Table 1. Resources related to internal safety culture

Dimension(s)	Resource	Organization	Format	Description
Leadership	Strategic Highway Safety Plan (SHSP) Leadership Briefing Packet	FHWA	Document	Information to brief leaders on the importance of a State’s SHSP including a fact sheet that provides an overview of the Highway Safety Improvement Program and describes the SHSP, talking points for discussions with State leaders, and more.
	Local Elected Officials: Leading the Way in Local Road Safety	FHWA	Brochure	Overview of the important role local elected officials play in improving road safety.
Leadership; Capacity Building and Training; Organizational Commitment to Support Road Safety	Roadmap for Implementing the Toward Zero Deaths (TZD) National Strategy on Highway Safety	American Association of State Highway and Transportation Officials (AASHTO) and others	Document	Framework for implementing the TZD National Strategy at State and local levels. It offers implementation guidance and a checklist of short- and long-term action steps, as well as examples of how some agencies are putting TZD into practice.

Dimension(s)	Resource	Organization	Format	Description
Capacity Building and Training	Road Safety Champion Program	National Center for Rural Road Safety	Website	Nationally recognized certificate program designed to build a knowledgeable, safety-minded workforce, responsible for operating, maintaining, and designing local roads
	Road Safety Professional 1 Training	Transportation Professional Certification Board, Inc.	Website	Certification program for professionals involved in a wide array of safety-related disciplines to establish their competency in providing for the safety of the traveling public.
	Outreach Training Program (OSHA 10-Hour & 30-Hour Cards)	Occupational Safety and Health Administration (OSHA)	Website	Program that provides workers with basic and more advanced training about common safety and health hazards on the job. Students receive an OSHA 10-hour or 30-hour course completion card at the end of the training.
	Roadway Safety Professional Capacity Building Program – Road Safety Fundamentals	FHWA	Document	Textbook that introduces fundamental concepts of road safety. These concepts cover areas such as the nature of road safety issues, human behavior in the road environment, and identifying and solving road safety problems.
Policy; Capacity Building and Training; Employee Engagement	trafficsafety.org	Network of Employers for Traffic Safety	Website	Tools and resources for workplaces with employees who drive during work.
All	WorkSafeBC	WorkSafeBC	Website	Toolkit that addresses the importance of growing a strong health and safety culture in the workplace including active management systems, leadership commitment, and engaging workers to grow a strong culture.
	Road Safety at Work	Road Safety at Work	Website	Clearinghouse of resources and tools to enable business and organizations to develop a comprehensive road safety plan to prevent work-related motor vehicle incidents.
	Safety Culture	FHWA	Website	Overview of safety culture as it relates to transportation, including links to safety culture materials from other organizations.
	Traffic Safety Culture	AASHTO and others	Website	Educational and guidance materials for developing programs and initiatives about traffic safety culture.
	Toward Zero Deaths: A National Strategy on Highway Safety	AASHTO and others	Document	Section 4 of this national highway safety strategy focuses on Safety Culture and includes information on assessing current status, determining appropriate strategies, aggressively implementing the strategies, and evaluating progress to determine further steps.

Dimension(s)	Resource	Organization	Format	Description
All	Vision Zero Network	Vision Zero Network	Website	Collaborative campaign with case studies, action plans, and other resources related to the strategy of eliminating all traffic fatalities and serious injuries.
	Road to Zero	National Safety Council	Website	Resources on reducing roadway fatalities and serious injuries, assembled by the Road to Zero Coalition.
	Successful Approaches for the Development of an Organization-Wide Safety Culture in Transportation Agencies	National Cooperative Highway Research Program (NCHRP)	Document	Report that summarizes findings from a domestic scan with a select group of transportation-related organizations on their efforts to improve organizational safety culture.
	Traffic Safety Culture Research Roadmap	NCHRP	Document	Report that presents a research roadmap for promoting traffic safety culture among State DOTs and other transportation safety agencies.

PROGRAMMATIC SAFETY INTEGRATION

Resources related to programmatic safety integration are listed in Table 2. These resources are from a variety of organizations.

Listed elements of each resource include its relevant dimension(s), its title, the organization that developed it, its format (i.e., website or document), and a description of its contents. The five dimensions of programmatic safety integration are:

1. Planning and Programming
2. Design and Engineering
3. Safety and Operations
4. Safety Assurance and Evaluation
5. Institutionalizing Safety

Table 2. Resources related to programmatic safety integration

Dimension(s)	Resource	Organization	Format	Description
Planning and Programming	Transportation Safety Planning	FHWA	Website	Resources on regional and Statewide transportation planning processes that integrate safety into surface transportation decision-making.
	Transportation Planning Capacity Building	FHWA	Website	Resources on integrating safety considerations into the transportation planning process.
	Building Links to Improve Safety: How Safety and Transportation Planning Practitioners Work Together	FHWA	Document	Resource guide for transportation planners and safety practitioners on how to work together to link the transportation planning and safety planning processes to address safety challenges.
	Transportation Safety Planning and the Zero Deaths Vision: A Guide for Metropolitan Planning Organizations and Local Communities	FHWA	Document	Guide that provides references to key information for Metropolitan Planning Organizations (MPOs) and local communities to understand and use the safety planning process to work toward the zero deaths vision.
	Applying Safety Data and Analysis to Performance – Based Transportation Planning	FHWA	Document	Guidebook that provides State and regional planners with information on how to effectively use safety data and analysis tools in performance-based transportation planning and programming processes.

Dimension(s)	Resource	Organization	Format	Description
Planning and Programming	MPO Guidebook for Using Safety as a Project Prioritization Factor	FHWA	Document	Guidebook that provides options for MPOs in using safety as a project prioritization factor. It includes six types of approaches and details potential criteria, analysis methods, pros, cons, data, and resource needs, for implementing these approaches at basic, intermediate, and advanced levels.
	Promising Practices for Meaningful Public Involvement in Transportation Decision-Making	FHWA	Document	Guide that provides promising practices around meaningful public involvement and participation regarding compliance with Title VI of the Civil Rights Act of 1964, the National Environmental Policy Act of 1969, and other existing requirements.
	Framework for Institutionalizing Safety in the Transportation Planning Process	NCHRP	Document	Guide for integrating and institutionalizing safety into the traditional transportation planning process.
	Developing Safety Plans: A Manual for Local Rural Road Owners	FHWA	Document	Guide to developing Local Road Safety Plans (LRSPs) geared to address the safety challenges unique to rural roads.
Planning and Programming; Design and Engineering	Integrating Road Safety into NEPA Analysis	FHWA	Document	Primer on how to address safety as part of the environment analysis process. Contains basic concepts for including quantitative analysis of project safety issues and for taking advantage of the latest tools, research, and techniques for improving road safety within a project scope.
Planning and Programming; Design and Engineering; Safety Assurance and Evaluation	Scale and Scope of Safety Assessment Methods in the Project Development Process	FHWA	Document	Document intended to help users identify and apply suitable methods to assess quantitatively the safety performance impacts of project development decisions in terms of crash frequency and severity.
	State Policies and Procedures on Use of the Highway Safety Manual	FHWA	Document	Generalized statements adapted from noteworthy examples of existing language in State DOT manuals and policies.
	Second U.S. Roadway Safety Data Capabilities Assessment	FHWA	Document	Overview of findings from assessment of each State's collection, analysis, management, and use of roadway safety data.

Dimension(s)	Resource	Organization	Format	Description
Planning and Programming; Design and Engineering; Safety Assurance and Evaluation	Reliability of Safety Management Methods: Network Screening	FHWA	Document	Guide that describes various methods and the latest tools to support network screening.
	Leading Practices in the Use of the Highway Safety Manual for Planning, Design, and Operations	NCHRP	Document	Scan focused on the practices of State transportation agencies that have most comprehensively implemented and integrated the HSM and performance-based, advanced safety analyses in planning, design, and operations.
	Crash Data Improvement Program Guide	National Highway Traffic Safety Administration	Document	Overview of crash data quality and guidance on how to measure and improve quality in terms of the six data quality characteristics - timeliness, accuracy, completeness, uniformity, integration, and accessibility.
Planning and Programming; Safety Assurance and Evaluation	Local Road Safety Plan DIY	FHWA	Website	Step-by-step guide to developing LRSPs.
Design and Engineering	Highway Safety Manual Resources	FHWA	Website	Resources on the AASHTO Highway Safety Manual that contains information and methods for quantitatively evaluating traffic safety performance on roadways. Includes FHWA-developed implementation tools such as the Interactive Highway Safety Design Model, the Crash Modification Factors Clearinghouse, and the Systemic Safety Project Selection Tool.
	Proven Safety Countermeasures	FHWA	Website	Collection of 28 countermeasures and strategies effective in reducing roadway fatalities and serious injuries on our Nation's highways.
	Crash Modification Factors Clearinghouse	FHWA	Website	Online repository of Crash Reduction Factors and Crash Modification Factors.
	Environmental Review Toolkit	FHWA	Website	Resources for implementing the HSM into the highway project development process and for implementing road safety into National Environmental Policy Act (NEPA) analyses.

Dimension(s)	Resource	Organization	Format	Description
Design and Engineering	Guidance – Information: Review of State Geometric Design Procedures or Design Criteria for Resurfacing, Restoration, and Rehabilitation Projects on the NHS	FHWA	Document	Guidance that clarifies FHWA regulations for FHWA Division Offices to consider when reviewing State resurfacing, restoration, and rehabilitation procedures or design criteria that support State safety and other performance goals and ensure compliance with applicable Federal statutory and regulatory provisions.
Safety and Operations	Coordination of Safety and TSMO	FHWA	Website	Resource for agencies to understand the opportunities for coordinating and integrating operations and safety. Includes brochures, case studies, fact sheets, presentations, and webinar recordings.
Safety and Operations; Safety Assurance	National Work Zone Safety Information Clearinghouse	American Road and Transportation Builders Association	Website	Resource for the transportation construction industry and the general public on information to improve safety in roadway work zones.
Institutionalizing Safety	FHWA Highway Safety Programs	FHWA	Website	Resources to help roadway safety professionals develop critical knowledge and skills in the roadway safety workforce.
	Roadway Safety Professional Capacity Building Program – Road Safety Fundamentals	FHWA	Website	Textbook that introduces fundamental concepts of road safety. These concepts cover areas such as the nature of road safety issues, human behavior in the road environment, and identifying and solving road safety problems.
	Road Safety Fundamentals Course	National Highway Institute (NHI)	Website	Companion course for the Road Safety Fundamentals textbook.
	NHI training programs	NHI	Website	As the training and education arm of FHWA, the NHI has a long and rich history of innovation and expertise in delivering transportation training.
	Road Safety Professional 1 Training	Transportation Professional Certification Board, Inc.	Website	Certification program for professionals involved in a wide array of safety-related disciplines to establish their competency in providing for the safety of the traveling public.
All	FHWA Office of Safety	FHWA	Website	Collection of safety resources, initiatives, and programs.
	Safety Culture	FHWA	Website	Overview of safety culture as it relates to transportation, including links to safety culture materials from other organizations.

Dimension(s)	Resource	Organization	Format	Description
All	How Do You Know You Have a Strong Road Safety Culture	FHWA	Video	Video shows what a strong organizational safety culture looks like through an illustration of two transportation agencies implementing their road improvement projects.
	The Safe System Approach	FHWA	Website	Informational resources for exploring the Safe System Approach and zero deaths vision.
	Safe System Approach	FHWA	Video	Overview of the philosophy behind the SSA, including a scenario that illustrates opportunities to save lives when an SSA is implemented
	Safe System Policy-based Alignment Framework	FHWA	Document	Tool to help agencies assess policies and safety planning documents in a holistic manner through an SSA lens.
	Zero Deaths and Safe System	FHWA	Website	Resources on applying the SSA to reduce deaths.
	Safe Streets and Roads For All (SS4A) Resources	FHWA	Website	Resources intended to help interested stakeholders prepare to apply for an SS4A discretionary grant and conduct project planning and activities if awarded SS4A funding.
	Safe System Roadway Design Hierarchy	FHWA	Document	Tool that characterizes engineering and infrastructure-based countermeasures and strategies relative to their alignment with the Safe System Approach.
	Data Driven Safety Analysis	FHWA	Website	Resources for using evidence-based models that provide the means to quantify safety impacts similar to how other impacts such as environmental effects, traffic operations, and pavement life are evaluated.
	Making Safety Everyone's Business	FHWA	Document	Poster that lists FHWA resources and implementation examples from States and other agencies related to organizational safety culture and programmatic safety integration.
	Equity in Roadway Safety	FHWA	Website	Resources that can assist in applying equity into transportation safety.
	Integration of Safety in the Project Development Process and Beyond: A Context Sensitive Approach	Institute of Transportation Engineers (ITE)	Document	Considerations of safety in the project development process and its relationship to highway design elements.
	Transportation Safety Resources	ITE	Website	List of technical resources and publications related to safety.

Dimension(s)	Resource	Organization	Format	Description
All	Vision Zero Network	Vision Zero Network	Website	Collaborative campaign with case studies, action plans, and other resources related to the strategy of eliminating all traffic fatalities and serious injuries.
	Road to Zero	National Safety Council	Website	Resources on reducing roadway fatalities and serious injuries, assembled by the Road to Zero Coalition.

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<https://highways.dot.gov/safety>
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