

# 2024

## Arizona Strategic Highway Safety Plan



**OCTOBER 2024**



***Creating a shared responsibility so everyone arrives safely home***

*Reaching our goal requires everyone's commitment*

The 2024 Arizona Strategic Highway Safety Plan is the result of true collaboration — it doesn't belong to one agency or a single organization. Multiple stakeholders and partners worked together to develop this ambitious plan aimed at reversing trends and reducing life-altering crashes 20% by 2030.

To meet our goal, the collaboration must continue.

That's because each one of us has a critical role to play. From drivers, pedestrians and transportation officials to lawmakers, vehicle manufacturers and first responders — it's going to take ALL of us working together to make real progress.

I'm optimistic that we're going to get there, but we have our work cut out for us.

In 2022, there were more than 1,300 traffic fatalities across the state. We also know that pedestrian and bicyclist deaths have increased dramatically in recent years. Injuries from crashes are on the rise, too. In 2022, we counted more than 52,000 injuries from crashes across Arizona — an increase from the previous year.

There's no doubt this is a serious public health crisis. The 2024 Arizona Strategic Highway Safety Plan gives us a solid way forward by:

- Focusing on emphasis areas that account for a large percentage of the fatal and serious injury crashes in our state.
- Adopting federal guidance that looks at all factors affecting safety and highlights our shared responsibility for improving the safety on roadways.
- Recommending 80 improvement strategies based on data and input from the public.

I appreciate everyone who worked so diligently to develop this plan. Hundreds of people were involved, including local, regional, state, federal, Tribal, non-profit and private-sector safety stakeholders. I also want to thank the public for sharing comments — every bit of that feedback has helped shape this plan.

We're up against a difficult challenge but there is a real assurance in the fact that so many are committed to implementing solutions — together, we're going to meet our goal!

**Jennifer Toth**

Director

Arizona Department of Transportation

## SHSP Endorsement

As part of the Arizona 2024 Strategic Highway Safety Plan (SHSP) update process, the Executive Committee serves in a leadership capacity for developing, promoting, and implementing cost-effective safety strategies in the state of Arizona to reduce fatal and serious injury crashes on all public roads. The SHSP was developed through a data-driven, collaborative approach involving safety partners across the state. The SHSP provides an overarching vision and goal for safety in Arizona and identifies the Emphasis Areas that will be the focus to achieve Arizona’s goal. The SHSP is a strategic statewide safety document that will guide future safety planning and programming processes. It will also facilitate implementation of recommended safety strategies through existing plans and programs that, over time, will result in a change in Arizona’s safety culture.

**WE, ON BEHALF OF THE AGENCIES THAT COMPRISE THE ARIZONA SHSP EXECUTIVE COMMITTEE, COMMIT TO SUPPORT THE IMPLEMENTATION OF THE RECOMMENDED STRATEGIES IN THE SHSP.**



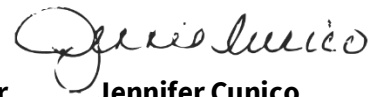
**Jennifer Toth**  
Director  
Arizona Department of Transportation




**Jesse Torrez**  
Director  
Arizona Governor’s Office of Highway Safety




**Col. Jeffrey Glover**  
Director  
Arizona Department of Public Safety

**Jennifer Cunico**  
Director  
Arizona Department of Health Services




**Wesley Fletcher**  
Deputy Director of Operations  
Arizona Department of Economic Security




**Ben Henry**  
Director  
Arizona Department of Liquor Licenses and Control




**Maria Dadgar**  
Executive Director  
Inter Tribal Council of Arizona



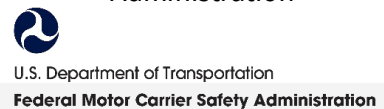

**Karla Petty**  
Arizona Division Administrator  
Federal Highway Administration




**Ryan Peters**  
Regional Program Manager  
National Highway Traffic Safety Administration




**Jon Olsen**  
Arizona Division Administrator  
Federal Motor Carrier Safety Administration



## Acknowledgements

The update and implementation of the Arizona SHSP would not be possible without the hard work of the support staff who have dedicated significant time and effort toward development of this document and their commitment to reducing fatalities in Arizona. Their dedication and passion to improve safety is sincerely appreciated.

### AGENCY SUPPORT STAFF

- **Clem Ligocki** – Planning Group Manager, Arizona Department of Transportation (ADOT)
- **Daniel Oldham** – SHSP/RSA Program Manager, ADOT
- **David Harden** – Strategic Planning & EMS Recognition Programs Manager, Arizona Department of Health Services (ADHS)
- **David Locher** – Operational Traffic & Safety Group Manager, ADOT
- **Dezbah Hatathli** – Native Nations Ambassador for Infrastructure, ADOT
- **Don Sneed** – Planning Program Manager/Tribal Liaison, ADOT
- **Elaine Mariolle** – Active Transportation Program Coordinator, ADOT
- **Emily Harding** – Planner in Training, ADOT
- **Glen Robison** – Safety Specialist, Federal Highway Administration (FHWA)
- **Greg Byres** – State Engineer / Deputy Director, ADOT
- **Jacob Pruet** – Traffic Safety Manager, ADOT
- **James Lagerman** – Traffic Safety Engineer Specialist, ADOT
- **Kerry Wilcoxon** – State Traffic Engineer, ADOT
- **Kohinoor Kar** – Transportation Engineer Manager, ADOT
- **Korina Lopez** – System Performance Team Leader, FHWA
- **Larry Talley** – HSIP Manager, ADOT
- **Mona Aglan-Swick** – Safety Programs Manager, ADOT
- **Nabhan Hossain** – Traffic Safety Intern, ADOT
- **Paula Brown** – Planning Program Manager/Tribal Liaison, ADOT
- **Saroja Devarakonda** – Safety Analysis Program Manager, ADOT

### CONSULTANT TEAM

- Kimley-Horn
- WSP
- Works Consulting

### AGENCY STAKEHOLDERS AND PARTNERS

We also express our appreciation to the many other agency stakeholders and partners who participated in, and contributed to, the SHSP:

- Ak-Chin Indian Community
- American Traffic Safety Services Association
- Apache County
- Arizona Corporation Commission
- Arizona Governor's Office
- Arizona State Transportation Board
- Arizona State University

- Association of Pedestrian and Bicycle Professionals
- Banner Children’s at Desert
- Banner Health
- Cameron Community Emergency Response Team
- Central Arizona Governments
- Central Yavapai Metropolitan Planning Organization
- City of Apache Junction
- City of Avondale
- City of Buckeye
- City of Bullhead City
- City of Chandler
- City of Coolidge
- City of Flagstaff
- City of Glendale
- City of Goodyear
- City of Mesa
- City of Phoenix
- City of Prescott
- City of Safford
- City of Scottsdale
- City of Sierra Vista
- City of Somerton
- City of Tempe
- City of Tucson
- City of Yuma
- Coalition for Transportation Choices
- Coalition of Arizona Bicyclists
- Cochise County
- Coconino County
- DUID Victim Voices
- Flagstaff Biking Organization
- Fort Yuma Quechan Tribe
- Gila County
- Graham County
- Greater Arizona Bicycling Association
- Hopi Tribe
- Hualapai Tribe
- Indian Country Intelligence Network
- Indian Health Services
- Lake Havasu Metropolitan Planning Organization
- Maricopa Association of Governments
- Maricopa County
- MetroPlan
- Mohave County
- Mountain Line
- Navajo County
- Navajo Nation
- Northern Arizona Council of Governments
- Northern Arizona University
- Pima Association of Governments
- Pima County
- Pinal County
- Pinnacle Prevention
- Pueblo of Zuni
- Salt River Pima-Maricopa Indian Community
- Sierra Vista Metropolitan Planning Organization
- Southeastern Arizona Governments Organization
- Southwest Bike Initiative
- Sun Corridor Metropolitan Planning Organization
- Sun Link Streetcar
- Tempe Bicycle Action Group
- Town of Florence
- Town of Gilbert
- Town of Marana
- Town of Payson
- Town of Prescott Valley
- Town of Superior
- University of Arizona
- Urban Phoenix Project
- Western Arizona Council of Governments
- Yavapai County
- Yuma County
- Yuma Metropolitan Planning Organization
- Yuma Region Bicycle Coalition

*Note: Top left photo on Executive Summary cover page courtesy of Meggen Connolley.  
All other photos courtesy of ADOT and Kimley-Horn project team.*

## DISCLAIMERS

### 23 UNITED STATES CODE SECTION 407

#### DISCOVERY AND ADMISSION AS EVIDENCE OF CERTAIN REPORTS AND SURVEYS

*Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.*

### 23 CODE OF FEDERAL REGULATIONS SECTION 420.117(E)

#### PROGRAM MONITORING AND REPORTING REQUIREMENTS

*This report was funded in part through grants from the Federal Highway Administration, U.S. Department of Transportation. The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the data, and for the use or adaptation of previously published material, presented herein. The contents do not necessarily reflect the official views or policies of the Arizona Department of Transportation or the Federal Highway Administration, U.S. Department of Transportation. This report does not constitute a standard, specification, or regulation. Trade or manufacturers' names that may appear herein are cited only because they are considered essential to the objectives of the report. The U.S. government and the State of Arizona do not endorse products or manufacturers.*

# Table of Contents

**EXECUTIVE SUMMARY ..... ES-1**

- SHSP Development Process ..... ES-1
- Vision and Goal..... ES-1
- Emphasis Areas ..... ES-2
- Incorporating the Safe System Approach ..... ES-3
- Public and Stakeholder Engagement..... ES-3
- Summary of High-Priority Recommended Strategies ..... ES-4
- Implementation ..... ES-4

**INTRODUCTION ..... 1**

- What is a Strategic Highway Safety Plan? ..... 1
- Federal SHSP Requirements..... 1

**VISION AND GOAL..... 3**

**GENERAL SAFETY TRENDS ..... 5**

- Data Collection..... 5
- Data Analysis ..... 6
- Notable Data Analysis Findings ..... 8

**SHSP DEVELOPMENT PROCESS ..... 11**

- Other Safety Planning Efforts ..... 11
- Integration with the Safe System Approach ..... 13

**EMPHASIS AREAS ..... 16**

- Incorporating the Safe System Approach ..... 17
- Traffic Safety Snapshots by Emphasis Area ..... 18

**PUBLIC AND STAKEHOLDER ENGAGEMENT ..... 23**

- Public Engagement ..... 23
- Stakeholder Engagement ..... 24

**RECOMMENDED STRATEGIES ..... 28**

- Human Behavior Emphasis Area Strategies..... 29
- Vulnerable Road Users Emphasis Area Strategies ..... 30
- Intersections Emphasis Area Strategies..... 31
- Lane Departure Emphasis Area Strategies..... 32
- Tribal Lands Emphasis Area Strategies ..... 33
- Summary of High-Priority Recommended Strategies ..... 34

**IMPLEMENTATION .....36**

SHSP Management Structure ..... 36

Roles and Responsibilities ..... 37

Funding..... 39

**APPENDIX A – DETAILED RECOMMENDED STRATEGIES**

**APPENDIX B – FUNDING OPPORTUNITIES**

**APPENDIX C – VULNERABLE ROAD USER SAFETY ASSESSMENT**

**APPENDIX D – SAFETY ANALYSIS**

**APPENDIX E – SHSP AND ATSAP PUBLIC ENGAGEMENT SUMMARY**

**APPENDIX F – SHSP AND ATSAP STAKEHOLDER ENGAGEMENT SUMMARY**

**APPENDIX G – 2025 NATIONAL HIGHWAY SAFETY-RELATED OBSERVANCES**

**APPENDIX H – SAFETY-RELATED DATA RESOURCES**



# EXECUTIVE SUMMARY

## Executive Summary

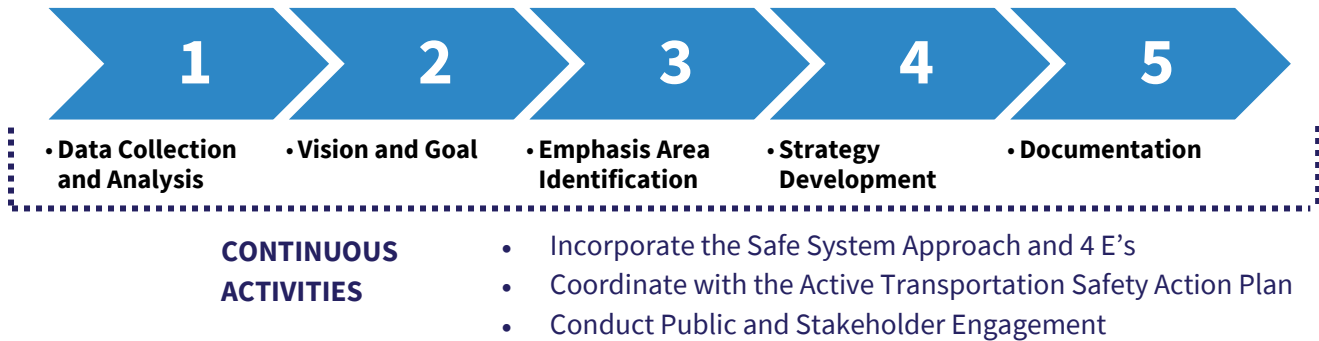
In 2022, Arizona had 1,302 crash-related fatalities, which was a record high for the state. That same year, 354 of those crash-related fatalities involved pedestrians and/or bicyclists (also referred to as vulnerable road users [VRU]), which also was a record high for the state.

The Arizona Strategic Highway Safety Plan (SHSP) is a statewide coordinated plan that provides a comprehensive framework for reducing fatalities and serious injuries on all public roads in Arizona. The Arizona SHSP has been developed by the Arizona Department of Transportation (ADOT) in cooperation with local, regional, state, federal, Tribal, non-profit, and private-sector safety stakeholders. The SHSP is a data-driven, multi-year plan that establishes a statewide vision and goal and identifies Emphasis Areas focused on reducing traffic fatalities and serious injuries.

### SHSP DEVELOPMENT PROCESS

Key activities in the SHSP development process are shown in **Figure ES-1**.

Figure ES-1. Key Activities



### VISION AND GOAL

The vision and goal for the SHSP were developed by the Executive Committee, considering historic safety trends, prior SHSP visions and goals, the 4 E's of safety (Engineering, Enforcement, Education, and Emergency Medical Services), and the need to directly convey responsibility to the public. The vision of the SHSP is consistent with the national movement to adopt the Safe System Approach. The 4 E's cover similar aspects as the Safe System Approach but are organized by professional discipline.

## VISION

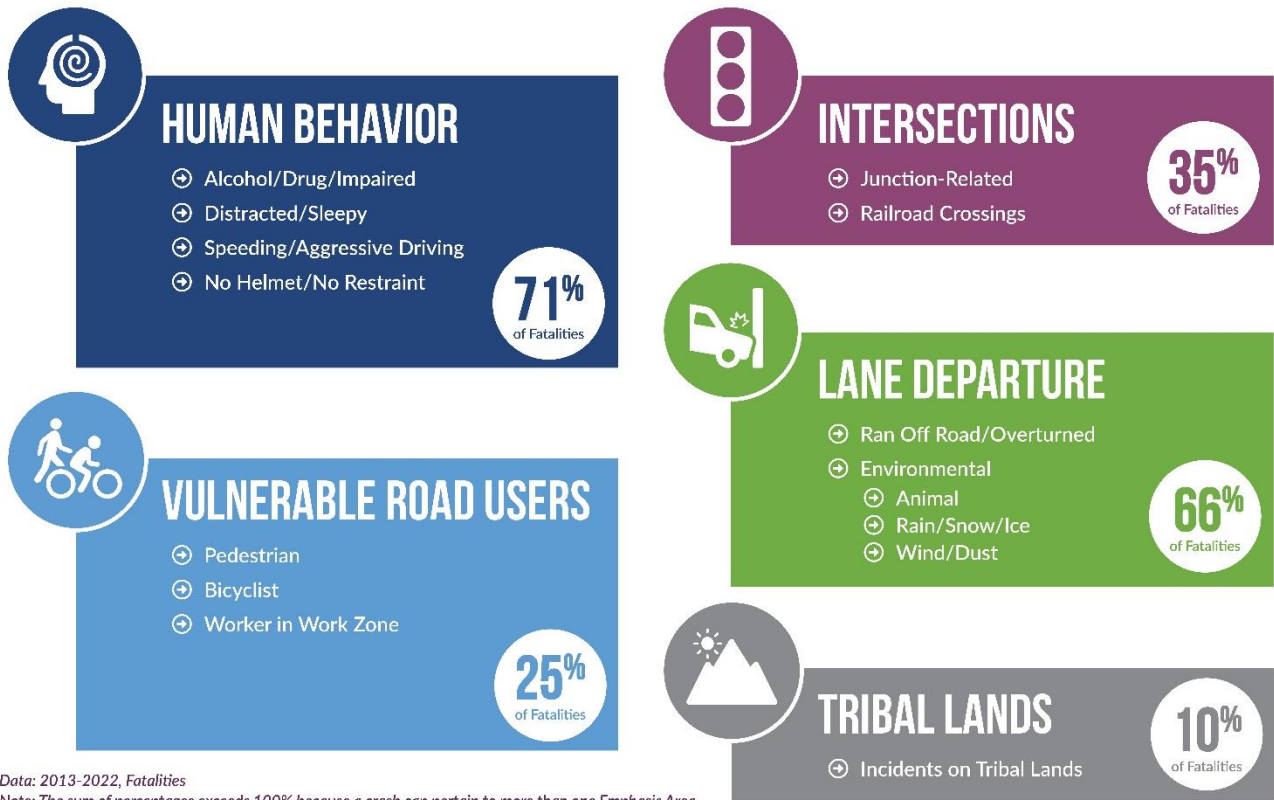
**Creating shared responsibility so everyone arrives safely home.**

**GOAL: REDUCE LIFE-ALTERING TRAFFIC CRASHES BY 20% BY 2030.**

## EMPHASIS AREAS

Based on the data analysis performed as part of the SHSP, Arizona identified five Emphasis Areas. Emphasis Area selection was driven by Emphasis Area representation in fatal crashes from 2013 through 2022. Each Emphasis Area reflects a common characteristic, but it should not be inferred that the common characteristic is necessarily the cause of, or a factor in, the crashes in that Emphasis Area. The identified Emphasis Areas and sample crash types, along with their representative percentage of traffic fatalities over the analysis period, are shown in **Figure ES-2**. During the implementation phase, it will be the responsibility of Emphasis Area teams to implement the strategies developed for each respective Emphasis Area.

Figure ES-2. SHSP Emphasis Areas



Data: 2013-2022, Fatalities

Note: The sum of percentages exceeds 100% because a crash can pertain to more than one Emphasis Area.

## INCORPORATING THE SAFE SYSTEM APPROACH

The SHSP adopts the United States Department of Transportation (USDOT) Safe System Approach, which looks at all factors affecting traffic safety. **Figure ES-3** shows the Safe System Approach ‘wheel’, which is based on a set of principles and elements intended to ensure that safety solutions are holistic and comprehensive. The Safe System Approach recognizes the likelihood of human error, accommodates human injury tolerance, and emphasizes a shared responsibility.

Figure ES-3. Safe System Approach Wheel



Source: FHWA

## PUBLIC AND STAKEHOLDER ENGAGEMENT





ADOT conducted a comprehensive outreach process to identify safety concerns of stakeholders and the public. Engagement activities were composed of virtual and in-person opportunities and consisted of online engagement, public meetings, stakeholder safety workshops, tribal outreach, and other outreach activities. Common feedback themes included:

- Focus on improving human behavior
- Enforce/improve existing traffic laws
- Make roadway improvements
- Develop protected bicyclist and pedestrian facilities

## SUMMARY OF HIGH-PRIORITY RECOMMENDED STRATEGIES

High-priority recommended strategies, organized by Safe System element, are summarized in **Table ES-1**. More detail on the recommended strategies is provided in **Appendix A**. It is recommended that the Emphasis Area teams initially focus on implementing the high-priority strategies in coordination with other safety partners and stakeholders. Opportunities to advance lower-priority recommended strategies should also be pursued as resources, funding, and time permit. These recommended strategies, once implemented, are anticipated to significantly reduce crash-related fatalities and serious injuries, working towards the vision of everyone arriving safely home every day.

*Table ES-1. High-Priority Recommended Strategies*

STRATEGY	
	<p><b>SAFE ROADS</b></p> <p>Improve visibility of VRUs, all users, and roadway features.            Incorporate VRUs more prominently in planning, design, and programming process.            Reduce high-risk movements.            Keep vehicles in their lane.</p>
	<p><b>SAFE ROAD USERS</b></p> <p>Conduct high-visibility enforcement at intersections.</p>
	<p><b>SAFE SPEEDS</b></p> <p>Increase automated/mobile enforcement of speeds.</p>
	<p><b>POST-CRASH CARE</b></p> <p>Promote safety at crash scenes.            Improve Tribal crash data collection and sharing.</p>

*Note: No high-priority strategies were recommended within the Safe Vehicles Safe System element.*

## IMPLEMENTATION

Effective implementation of the vision, goal, and Emphasis Area strategies requires coordination and collaboration among all stakeholders. The process involves stakeholders at every level of government in Arizona, including local, county, regional, state, Tribal, and federal partners, as well as the private sector, advocacy groups, and the public.

Important next steps include the following:

- Organization of Emphasis Area teams to develop action plans for strategy implementation, tracking progress, and identifying funding
- Integration of the SHSP's vision, goal, and strategies in Tribal, regional, and local safety planning efforts
- Organization of a Safety Data-Sharing team to facilitate increased sharing of safety data
- Identification of, and advocacy for, funding for safety strategies (see **Appendix B** for details on potential funding sources)
- Regular engagement and guidance from the SHSP Executive Committee



# 1

## INTRODUCTION

## Introduction

### WHAT IS A STRATEGIC HIGHWAY SAFETY PLAN?

The Arizona SHSP establishes a framework for traffic safety partners to reduce fatalities and serious injuries on all public roads in Arizona through a series of strategies. Federal regulations require every state to develop an SHSP and update it at least every five years. The 2024 Arizona SHSP is designed to meet this federal requirement.

The SHSP has been developed by the Arizona Department of Transportation (ADOT) in cooperation with local, regional, state, federal, Tribal, non-profit, and private-sector safety stakeholders. There are growing safety concerns in Arizona, and nationwide, and a well-developed SHSP is vital to resolving this societal health crisis and improving the quality of life for Arizona residents.

### FEDERAL SHSP REQUIREMENTS

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was passed in 2005 and implemented a new core safety program known as the Highway Safety Improvement Program (HSIP). The HSIP has been carried forward in subsequent transportation authorizations and today is designated by 23 United States Code Section 148.

The HSIP provides funds to state departments of transportation (DOTs) for safety improvement projects and, in turn, requires each state to develop an SHSP. This federally-required plan involves preparation of a comprehensive, collaborative, and data-driven approach to safety that incorporates the 4 E's of highway safety. The process defined by the Federal Highway Administration (FHWA) requires the plan to establish an overall framework for analysis of priority needs and opportunities for roadway safety improvements. The SHSP assesses previous safety planning efforts and current conditions to inform future statewide planning efforts as well as planning at the regional, Tribal, and local levels. The SHSP is an overarching traffic safety plan to guide Arizona's safety planning and programming processes and to facilitate implementation of recommended strategies. The SHSP can also identify complementary and jointly-funded activities that can be implemented at the state, regional, local, and Tribal levels. All partners are encouraged to utilize the SHSP as a guide when investing funding into Arizona's transportation system.

#### THE 4 E'S OF SAFETY

ENGINEERING  
ENFORCEMENT  
EDUCATION  
EMERGENCY MEDICAL SERVICES

Subsequent sections of this SHSP document include a review of general safety trends, the SHSP development process, vision and goal, public and stakeholder engagement, recommended strategies, and implementation.



# 2

## VISION AND GOAL

## Vision and Goal

The vision and goal for the SHSP were developed by the Executive Committee. When developing the vision, the Executive Committee considered historic safety trends, prior SHSP visions and goals, the 4 E's of safety, and the need to directly convey responsibility to the public. Several potential vision statements were developed and then consolidated into one vision statement.

The vision of the SHSP is consistent with the national movement to adopt the Safe System Approach. The 4 E's cover similar aspects as the Safe System Approach but are organized by professional discipline. Although the long-term objective is to ultimately have zero fatalities on Arizona roadways, it will take considerable time to reach zero deaths given current safety trends. Instead, the vision prioritizes creating a culture of safety to improve traveling conditions for all modes of travel.

To develop the SHSP goal, the Executive Committee considered a target value and timeframe that would allow the goal to be Specific, Measurable, Action-oriented, Reasonable, and Time-bound (SMART) and consistent with the SHSP vision and the Arizona governor's priorities. Several potential goal statements were developed and then consolidated into one goal statement.

## VISION

**Creating shared responsibility so  
everyone arrives safely home.**

**GOAL: REDUCE LIFE-ALTERING TRAFFIC CRASHES BY 20% BY 2030.**



# 3

## GENERAL SAFETY TRENDS

## General Safety Trends

### DATA COLLECTION

A data-driven process was used to understand historical and current traffic safety trends in Arizona. Data sources included crash records, enforcement records, vehicle registrations, and emergency medical services (EMS) prehospital and trauma data.

#### ADOT Crash Data

Crash information was obtained on September 11, 2023, from the Accident Location Identification Surveillance System (ALISS) database, maintained by ADOT, which consists of information entered on the standard Arizona Crash Report form by law enforcement officers. Crash records are continuously collected from agencies throughout the state, with data for past years updated as information becomes available. Because of this, crash data referenced in other documents may not match exactly with the crash data shown in the SHSP if the date differs when the crash data was obtained. Crash data was primarily reviewed for the last decade, from 2013 through 2022.



CRASH DATA

#### ADOT Motor Vehicle Division Data

ADOT's Motor Vehicle Division (MVD) provided data on vehicle registrations, including vehicle body styles by county, and driving under the influence (DUI) convictions per court records for the last ten years.



MOTOR VEHICLE DATA

#### Arizona Department of Public Safety Citation Data

Citation data from the Traffic and Criminal Software (TraCS) database was provided by the Arizona Department of Public Safety (DPS) from 2013 through 2022. The database primarily covers the State Highway System. Data reviewed included hazardous citations, non-hazardous citations, and DUI citations.



PUBLIC SAFETY DATA

#### Bureau of EMS and Trauma System Data

The Bureau of Emergency Medical Services (EMS) and Trauma System, within the Arizona Department of Health Services (ADHS), publishes descriptive statistics of Arizona injury and fatal motor vehicle crashes divided between "highway" and "non-highway" crashes. The Bureau provided Motor Vehicle Traffic (MVT) trauma data from 2017 through 2022, based on the Arizona State Trauma Registry (ASTR).



EMS AND TRAUMA SYSTEM  
DATA

## DATA ANALYSIS

Notable safety statistics across the state in 2022 and safety trends over the last 25 years are shown below. Crash data for 2023, which just recently became available, indicates generally similar safety statistics to 2022.

### SAFETY STATISTICS FOR 2022

**120,204** total crashes

**52,502** injuries

**1,302** fatalities

#### OF FATALITIES IN 2022, THERE WERE:

	<b>48</b>	bicyclists		<b>306</b>	pedestrians
	<b>231</b>	motorcyclists		<b>717</b>	vehicle occupants

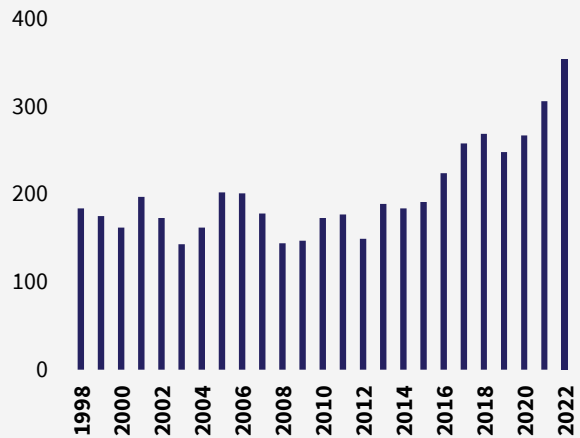
Total fatalities and fatalities involving pedestrians and bicyclists, known as Vulnerable Road Users (VRUs), reached record highs in 2022.

### SAFETY TRENDS 1998-2022

TRAFFIC FATALITIES IN ARIZONA

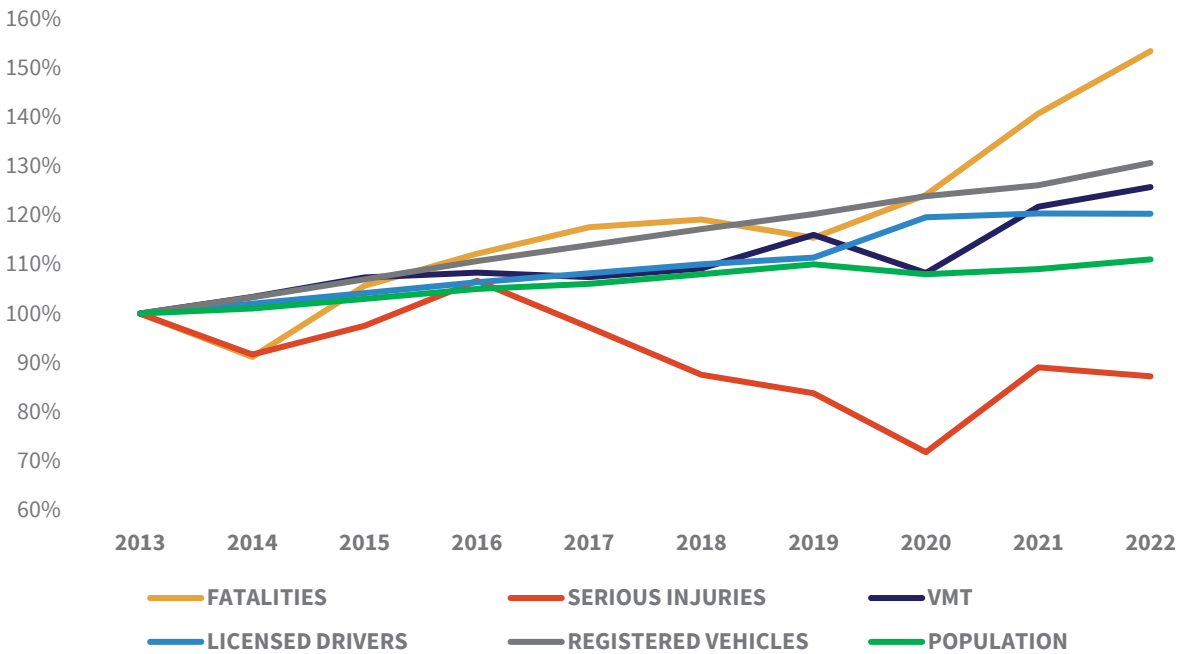


VRU FATALITIES IN ARIZONA



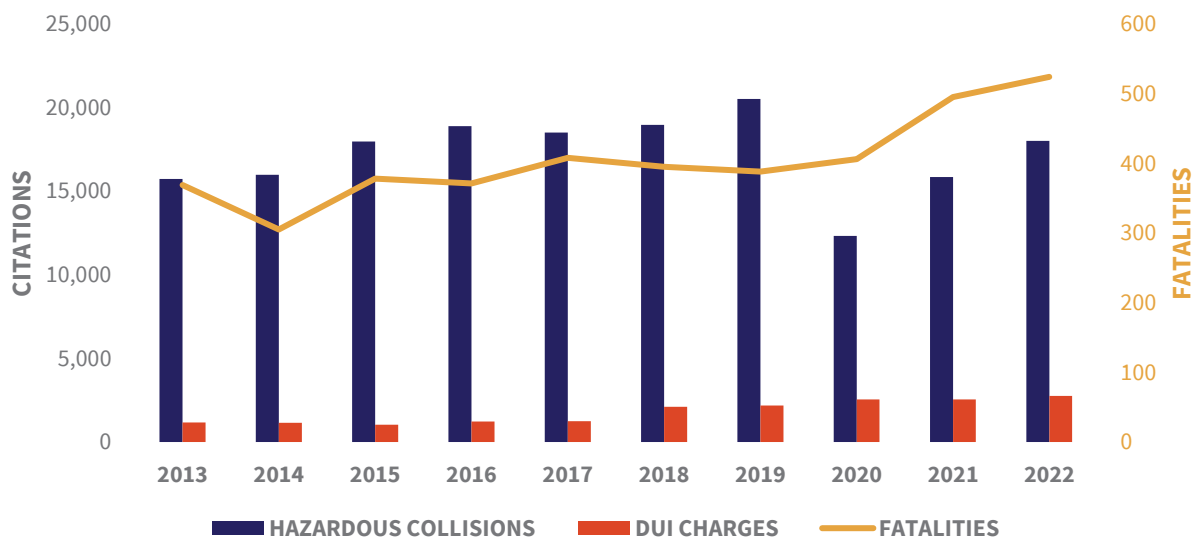
In reviewing crash trends related to fatalities and serious injuries, it is important to consider additional data, such as changes in population, number of licensed drivers, number of registered vehicles, and vehicle miles traveled (VMT). **Figure 1** shows percent change trends for all of these categories from 2013 through 2022. While most of these categories show a positive (i.e., increasing) trend over time, the percent change for fatalities is much higher than the other categories. The percent change for serious injuries reflects a general decrease over that same time period.

Figure 1. Historical Trends of Relevant Data



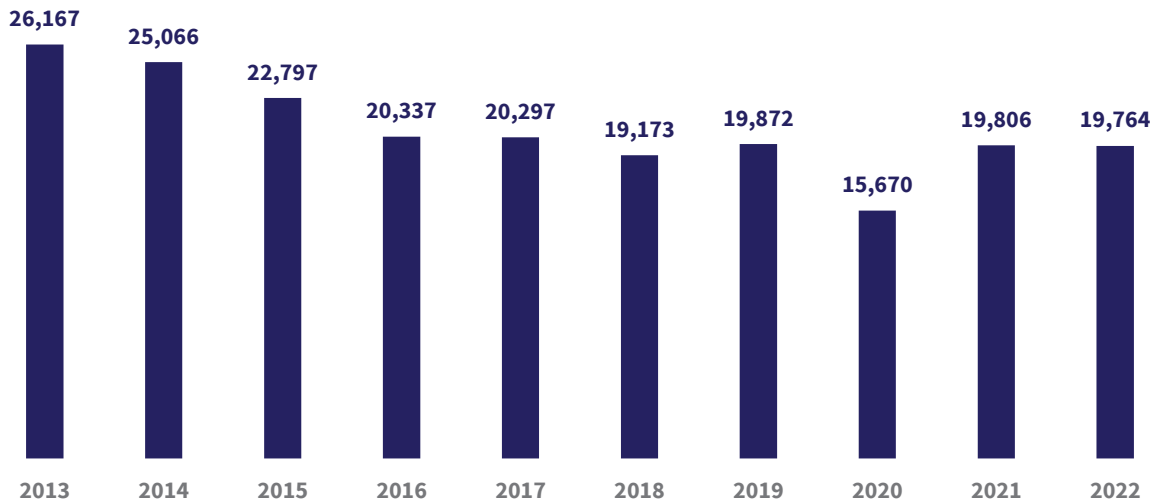
Citation data, provided by DPS, was assessed for hazardous collision (crash-related) and DUI citations (charges) compared to traffic fatalities to assess if there might be a correlation between citations given and fatalities. **Figure 2** shows the number of citations given by DPS compared to traffic fatalities per year on the State Highway System (over which DPS has jurisdiction). DUI citations by DPS have generally increased over time while hazardous collision citations dropped significantly in 2020 and were close to the historical 10-year average in 2022. It should be noted citations are also given out by local, county, federal, and Tribal officers on their respective roadways, so the DPS citation numbers shown do not reflect all citations given statewide.

Figure 2. Historical DPS Citations Compared to State Highway System Fatalities



To supplement the Arizona Department of Public Safety citation data, the ADOT Motor Vehicle Division provided DUI conviction data, which covers all jurisdictions statewide. **Figure 3** shows the numbers for DUI convictions statewide in Arizona for 2013 through 2022. The number of DUI convictions statewide has generally decreased over time since 2013.

Figure 3. Historical DUI Convictions



MVT trauma data provided by ADHS for 2017 through 2022 showed the following trends in trauma data compared to traffic fatalities:

- Trauma data captured 45% of total traffic fatalities during the data timeframe, reporting 2,928 fatalities compared to 6,539 fatalities reported in ADOT's statewide crash database.
- Trauma incident patterns reflect a higher percentage of VRU-involved crashes, with ASTR reporting 74% vehicle occupants, 13% motorcyclists, and 12% VRUs whereas ADOT's statewide crash database reports 90% vehicle occupants, 5% motorcyclists, and 5% VRUs. Trauma data only reflects crash victims that are transported to a medical facility.
- Approximately 3.2% of MVT trauma patients end in fatalities, with the highest percentage of fatalities in Maricopa County and Pima County and the lowest in Mohave County and Graham County.

## NOTABLE DATA ANALYSIS FINDINGS

Key findings from the data analysis include:

- Arizona traffic fatalities have increased 70% since 2010.
- Arizona VRU fatalities have increased 110% since 2010.
- People aged 25-34 had the most fatalities and serious injuries compared to other age groups.
- Human behaviors, such as impaired driving, speeding, and/or a lack of safety restraints/helmets contributed to most fatal and serious injury crashes.
- Pedestrian impairment from alcohol or drugs was a contributing factor in 47% of all pedestrian fatalities.

- Both pedestrian and bicyclist fatalities have generally increased over the last 10 years, with pedestrian fatalities nearly doubling.
- Most fatal and serious injury crashes that involve pedestrians occurred crossing mid-block at night while those that involve bicyclists most commonly occurred crossing an intersection during the day.
- Most intersection-related fatalities and serious injuries occurred in a left-turn/angle crash.
- Most lane departure-related fatal and serious injury crashes occurred when a driver ran off the road to the right on a roadway that is not a freeway.
- On Tribal lands, the proportion of fatal crashes compared to all crashes is four-times higher than the statewide average, likely due in part to under-reporting of lower severity crashes by some agencies.



# 4

## SHSP DEVELOPMENT PROCESS

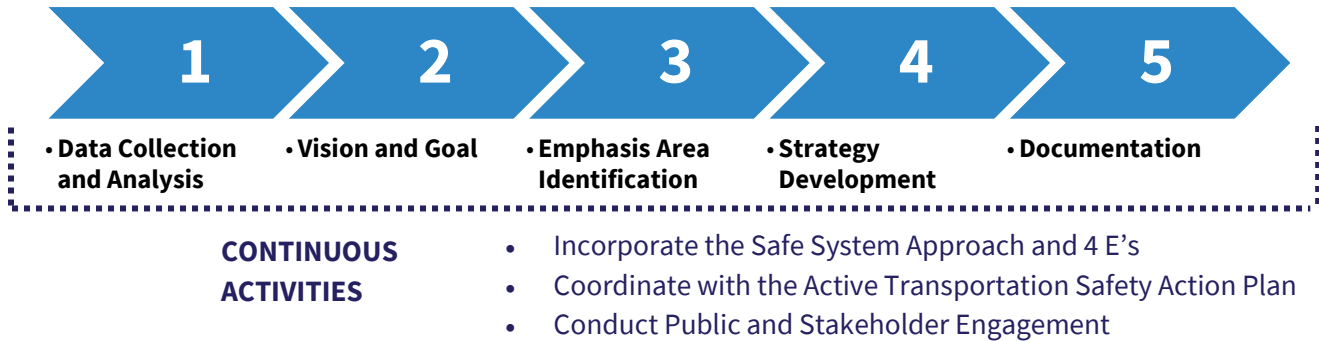
## SHSP Development Process

### WHAT MAKES A SUCCESSFUL SHSP?

- Can be implemented and evaluated
- Based on crash data and other safety analyses to identify safety issues on all public roads
- Developed from consultation with a broad range of stakeholders
- Addresses the 4 E's of safety through a multidisciplinary approach
- Includes a program of strategies to reduce fatal and serious injury crashes
- Sets one or more goals and measures performance

Key activities in the SHSP development process are shown in **Figure 4**. These activities aim to ensure the plan encompasses the components of a successful SHSP that are defined above.

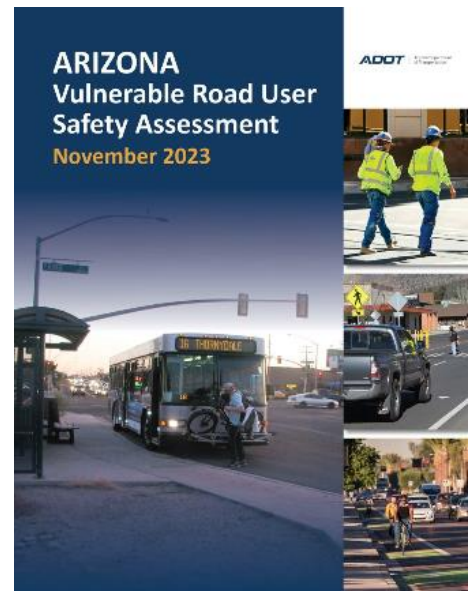
Figure 4. Key Activities



## OTHER SAFETY PLANNING EFFORTS

### VULNERABLE ROAD USER SAFETY ASSESSMENT

The Vulnerable Road User Safety Assessment (VRUSA) was a precursor to the development of the 2024 SHSP. The VRUSA is a statewide plan to improve safety for VRUs in Arizona. The assessment evaluated historical crashes involving VRUs, VRU activity levels, locations of underserved populations, and stakeholder consultation to develop strategies and programs to improve VRU safety in the state. The plan identified locations that are likely to require more attention and resources to improve safety for VRUs, referred to as Safety Improvement Areas. The VRUSA resulted in a program of projects and strategies that should be utilized by agencies to aid in identifying appropriate strategies to equitably improve VRU safety. The VRUSA is in **Appendix C**.

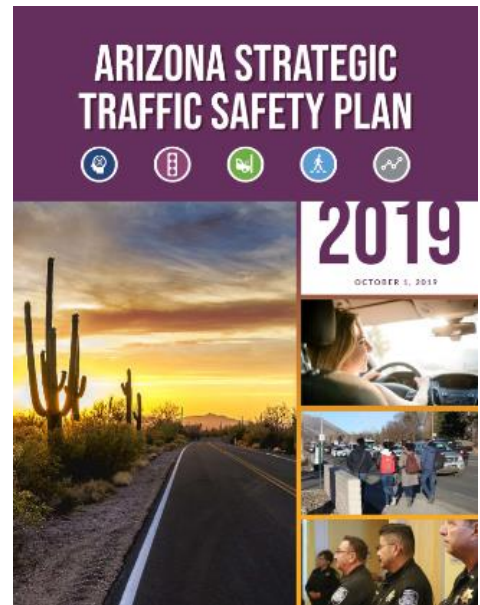


## ARIZONA 2019 STRATEGIC TRAFFIC SAFETY PLAN

The prior SHSP, completed in 2019, was branded as a Strategic Traffic Safety Plan (STSP) to emphasize the plan’s applicability to all roads in Arizona. The 2019 STSP established five emphasis areas, as shown below. The 2019 STSP established a long-term vision of “*Toward Zero Deaths by Reducing Crashes for a Safer Arizona*” and a goal to “reduce traffic fatalities on Arizona’s roadways”. This report was referenced during the development of the SHSP to identify lessons learned and to build off its successes in addressing safety needs. Various strategies from the 2019 STSP were implemented since the adoption of the plan. Some of these strategies include:

- Dust detection and warning system with variable speed limits on I-10
- Wrong-way driver detection at freeway interchanges
- Drug and alcohol testing results clearinghouse for commercial driver’s license (CDL) holders
- Entry Level Driver Training (ELDT) for individuals wanting to obtain/upgrade a CDL, operate a bus, or transport hazardous material

### 2019 STSP EMPHASIS AREAS



### COORDINATION WITH ATSAP

The 2024 SHSP was simultaneously developed with ADOT’s 2024 Active Transportation Safety Action Plan (ATSAP), resulting in significant coordination between the two efforts, including combined public and stakeholder engagement efforts. The ATSAP focuses on pedestrian and bicyclist needs on the State Highway System and identifies specific projects to address safety concerns of pedestrians and bicyclists.



## INTEGRATION WITH THE SAFE SYSTEM APPROACH

The SHSP adopts USDOT's Safe System Approach framework to inform analysis of existing conditions and the development of strategies to improve traffic safety in Arizona. The Safe System Approach was integrated into the overall process of developing the SHSP to account for all elements of traffic safety.

**Figure 5** shows the Safe System Approach 'wheel', which is based on a set of principles and elements intended to ensure that safety solutions are holistic and comprehensive. The Safe System Approach recognizes the likelihood of human error, accommodates human injury tolerance, and emphasizes a shared responsibility.

The SHSP implements the Safe System Approach by aiming to:

- Separate users in time  
(e.g., pedestrian signal phasing)
- Separate users in space  
(e.g., separated bike lanes and paths)
- Increase attentiveness and awareness  
(e.g., crosswalk visibility, lighting)
- Reduce speeds  
(e.g., narrow lanes, enforcement)
- Reduce impact forces  
(e.g., roundabouts, seatbelts)

Figure 5. Safe System Approach



Source: FHWA






## Safe System Principles

The Safe System Approach incorporates the following principles:

- **DEATH/SERIOUS INJURY IS UNACCEPTABLE.** A Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries.
- **HUMANS MAKE MISTAKES.** People will inevitably make mistakes and decisions that can lead to crashes, but transportation infrastructure can be designed and operated to accommodate certain human errors and avoid fatal or serious injuries when crashes do occur.
- **HUMANS ARE VULNERABLE.** Human bodies have a limited tolerance to crash forces before death or serious injuries occur. It is crucial to design and operate a transportation network that is human-centric and accommodates physical vulnerabilities.
- **RESPONSIBILITY IS SHARED.** All stakeholders are vital to implementing the Safe System Approach and reducing fatalities and serious injuries on the roadway network.
- **SAFETY IS PROACTIVE.** Proactive strategies should be used to identify and address safety issues in advance of crashes occurring.
- **REDUNDANCY IS CRUCIAL.** Reducing risk requires all aspects of the transportation network to be strengthened; if one aspect fails, other parts can protect people.

## Safe System Elements

The Safe System elements are complementary components that work with the Safe System principles towards the Safe System Approach’s vision. The Safe System elements include:

	<b>SAFE ROAD USERS</b>	Encourage safe driving, walking, and cycling behavior by those who are using the roadway network and create conditions that prioritize their ability to reach their destination unharmed.
	<b>SAFE VEHICLES</b>	Promote the availability of vehicles with safety features to aid in crash prevention and minimize the impact when a crash occurs.
	<b>SAFE SPEEDS</b>	Promote safe travel speed on all roadway environments by implementing context-appropriate roadway design, speed-limit setting, enforcement, and education.
	<b>SAFE ROADS</b>	Design roadway infrastructure to mitigate human mistakes, account for injury tolerances, encourage safe behavior, and facilitate safe travel by all.
	<b>POST-CRASH CARE</b>	Enhance survivability of crashes through fast access to emergency medical services, creating a safe work environment for first responders, and preventing secondary crashes through traffic incident management practices.



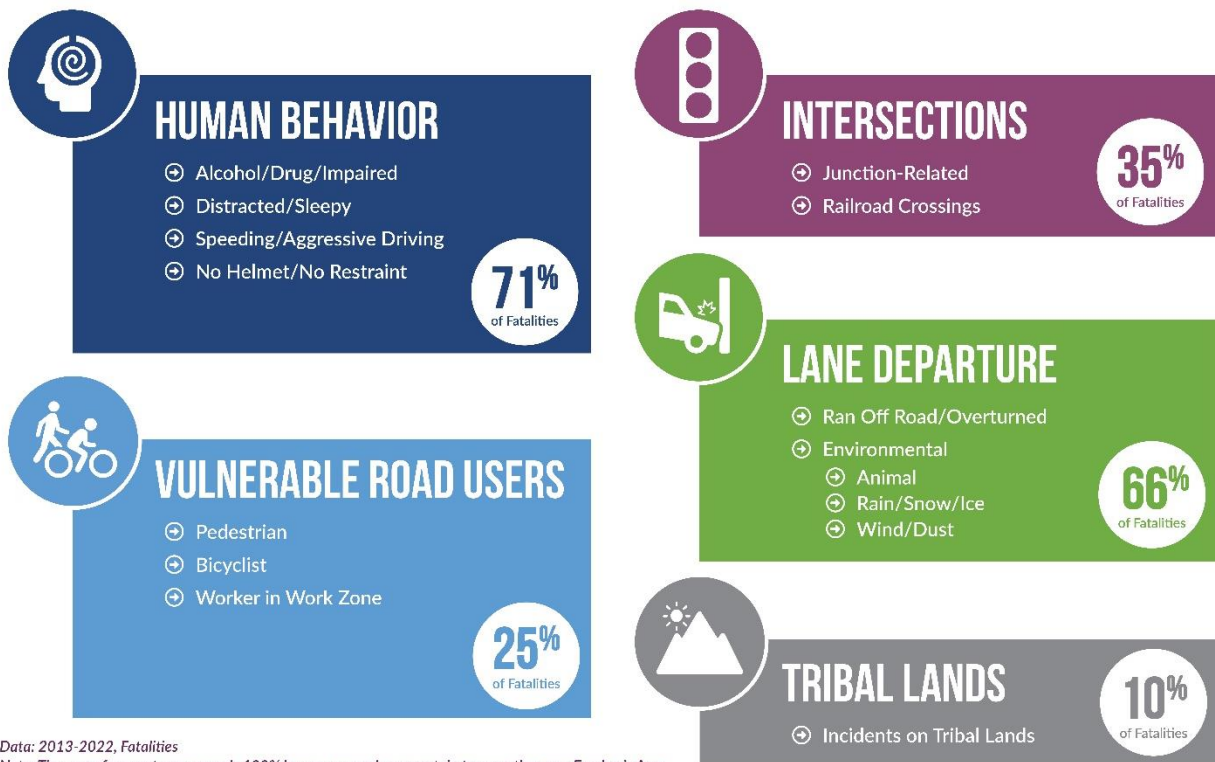
# 5

## EMPHASIS AREAS

## Emphasis Areas

FHWA guidance suggests that Emphasis Areas should reflect “the greatest potential for reducing fatalities and injuries.” Based on the data analysis performed, Arizona identified five Emphasis Areas. Emphasis Area selection was driven by Emphasis Area representation in fatal crashes from 2013 through 2022. Each Emphasis Area reflects a common characteristic, but it should not be inferred that the common characteristic is necessarily the cause of, or a factor in, the crashes in that Emphasis Area. These Emphasis Areas are a required component of the SHSP and help direct resources, focus implementation efforts, and organize Emphasis Area teams. The identified Emphasis Areas and sample crash types, along with their representative percentage of traffic fatalities over the analysis period, are shown in **Figure 6**. More details on the types of crashes included in each Emphasis Area are available in **Appendix D**. During the implementation phase, it will be the responsibility of Emphasis Area teams to implement the strategies developed for each respective Emphasis Area.

Figure 6. SHSP Emphasis Areas



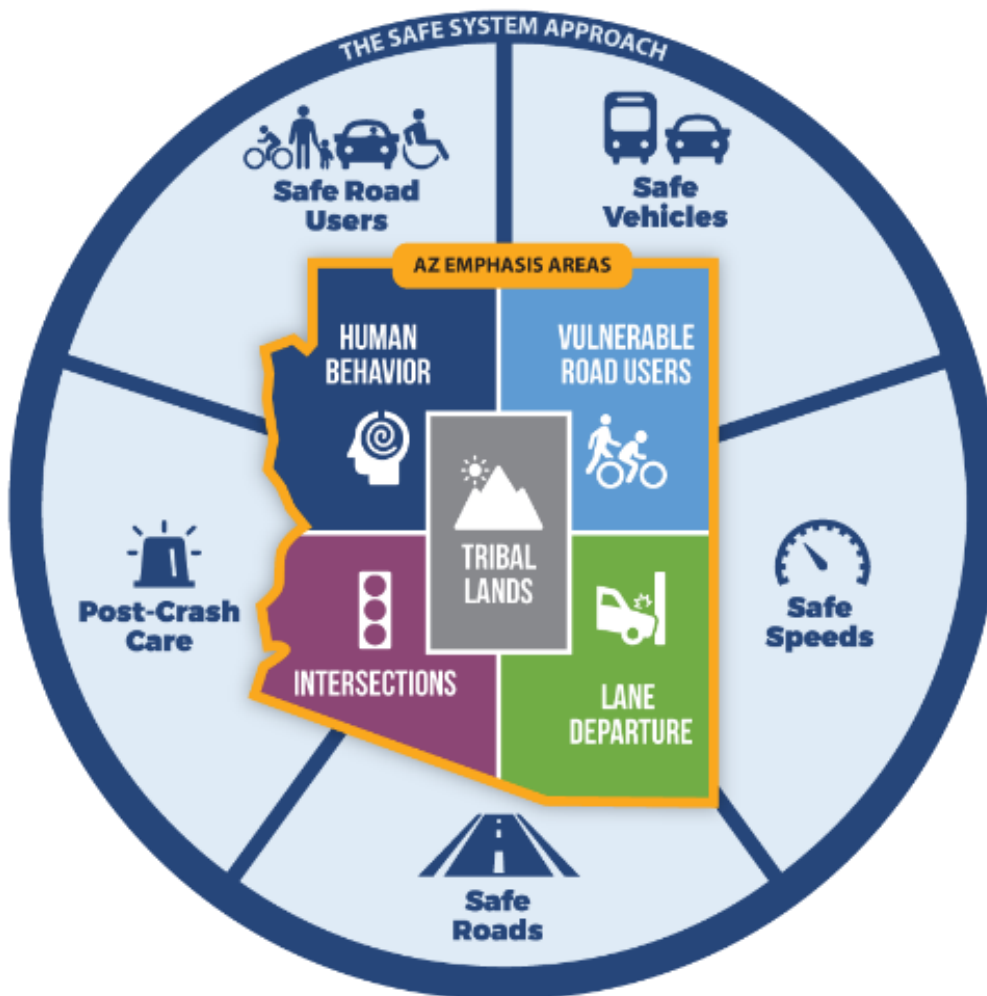
Data: 2013-2022, Fatalities  
 Note: The sum of percentages exceeds 100% because a crash can pertain to more than one Emphasis Area.

## INCORPORATING THE SAFE SYSTEM APPROACH

The Safe System Approach is integrated into the strategies developed for each Emphasis Area, ensuring this priority is considered in all aspects of the SHSP. The Emphasis Area structure is shown in **Figure 7**. The benefit of this approach is that there may be overlapping strategies between different Emphasis Areas and Safe System elements, providing stakeholders with a broader opportunity to get involved.

Safety improvement strategies are categorized by Emphasis Area and subcategorized by the Safe System elements in **Appendix A**. During the implementation phase, each Emphasis Area team will consist of stakeholders representing the 4 E's and the various Safe System elements.

Figure 7. Emphasis Area Structure Within Safe System Approach



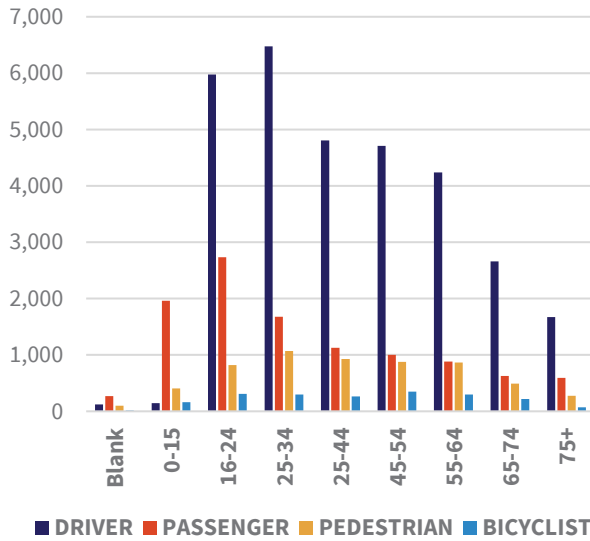
### TRAFFIC SAFETY SNAPSHOTS BY EMPHASIS AREA

Crash snapshots for each Emphasis Area are shown in the section below. All graphics show fatalities and serious injuries combined unless otherwise noted. More details are available in **Appendix D**.

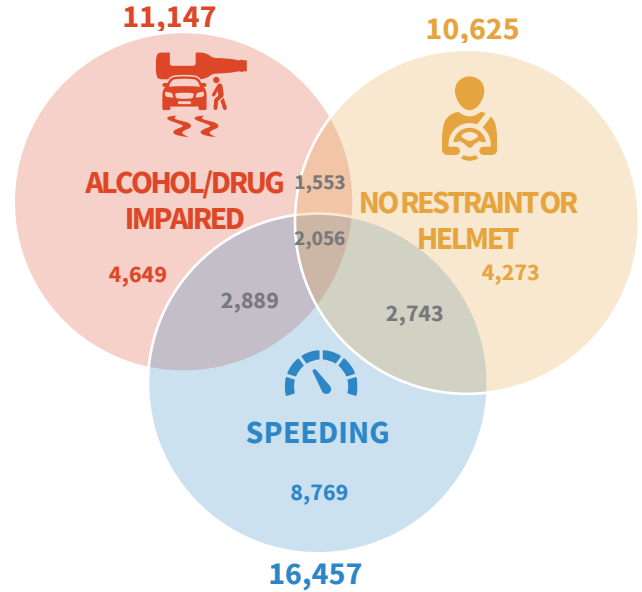


#### HUMAN BEHAVIOR

FATALITIES AND SERIOUS INJURIES BY AGE:



FATALITIES AND SERIOUS INJURIES BY HUMAN BEHAVIOR INDICATOR:

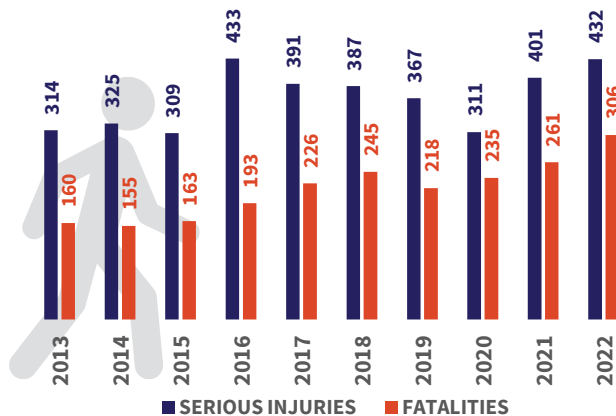


PEOPLE AGED 25-34 HAD THE MOST FATALITIES AND SERIOUS INJURIES COMPARED TO OTHER AGE GROUPS. MOST FATALITIES OCCURRED WHEN VEHICLE OCCUPANTS DID NOT USE A SEAT BELT OR MOTORCYCLISTS DID NOT WEAR A HELMET. IN MANY CASES, IMPAIRMENT AND/OR SPEEDING WERE ALSO FACTORS.

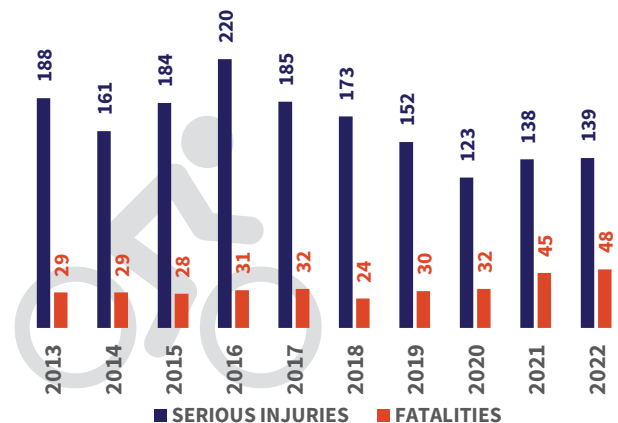


#### VULNERABLE ROAD USERS

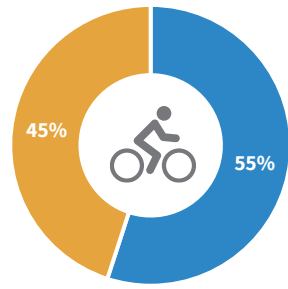
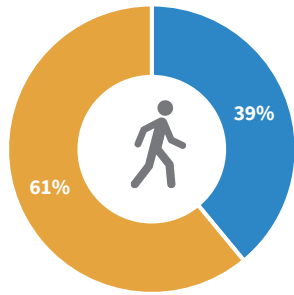
PEDESTRIAN SERIOUS INJURIES AND FATALITIES BY YEAR:



BICYCLIST SERIOUS INJURIES AND FATALITIES BY YEAR:

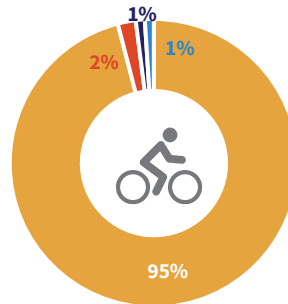
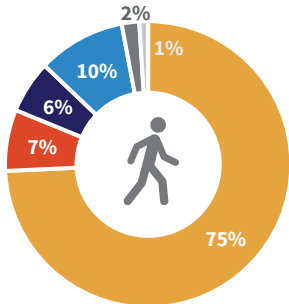


### WHERE:



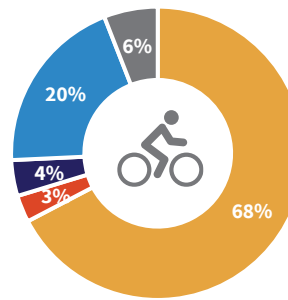
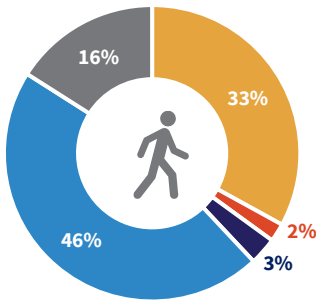
- INTERSECTION
- MID-BLOCK

### WHILE:



- CROSSING THE ROAD
- TRAVELING WITH TRAFFIC
- TRAVELING AGAINST TRAFFIC
- STOPPED ON ROAD
- LYING ON ROAD
- WORKING ON VEHICLE

### WHEN:



- DAYLIGHT
- DAWN
- DUSK
- DARK WITH LIGHTING
- DARK WITHOUT LIGHTING

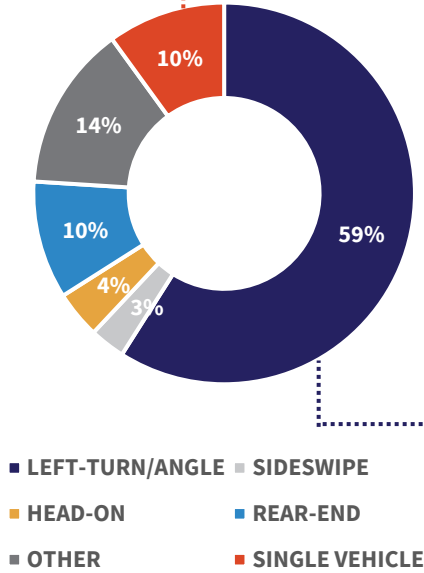


**BOTH PEDESTRIAN AND BICYCLIST FATALITIES HAVE GENERALLY INCREASED OVER THE LAST 10 YEARS, WITH PEDESTRIAN FATALITIES NEARLY DOUBLING. MOST FATAL AND SERIOUS INJURY CRASHES THAT INVOLVE PEDESTRIANS OCCUR WHEN CROSSING MID-BLOCK AT NIGHT WHILE THOSE THAT INVOLVE BICYCLISTS MOST COMMONLY OCCUR WHEN CROSSING AN INTERSECTION DURING THE DAY.**

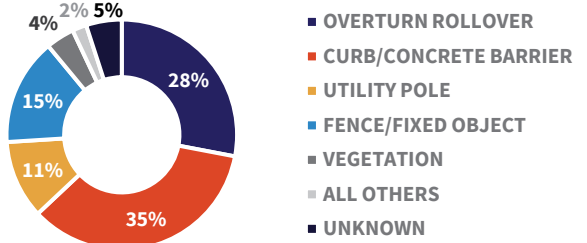


### INTERSECTIONS

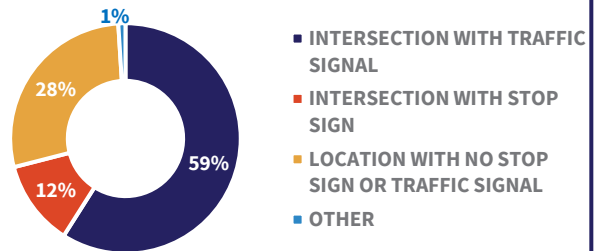
INTERSECTION CRASH TYPE



SINGLE VEHICLE FIRST HARMFUL EVENT



LEFT-TURN CRASH LOCATIONS

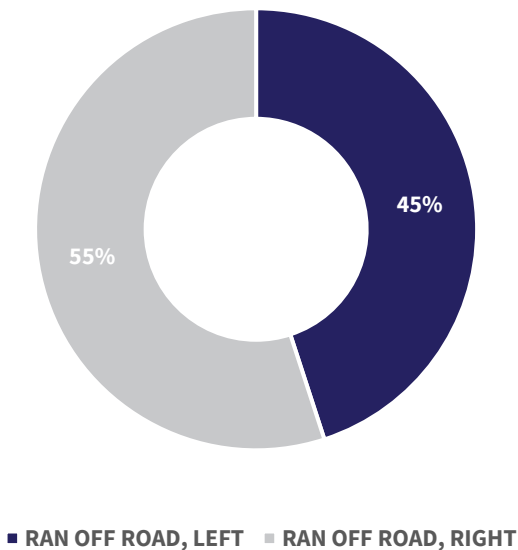


*MOST INTERSECTION-RELATED FATALITIES AND SERIOUS INJURIES OCCURRED IN A LEFT-TURN/ANGLE CRASH, WITH MOST OF THOSE CRASHES OCCURRING AT INTERSECTIONS WITH A TRAFFIC SIGNAL.*

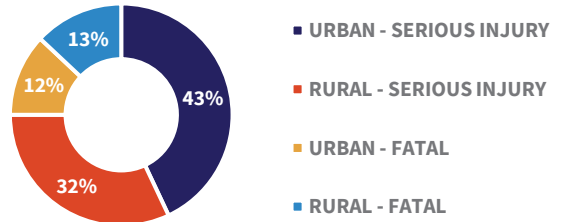


### LANE DEPARTURE

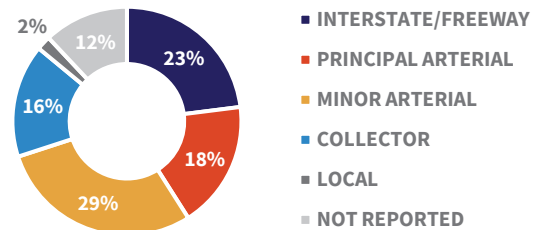
LANE DEPARTURE CRASH TYPE



URBAN/RURAL



ROADWAY TYPE



*MOST LANE DEPARTURE-RELATED FATAL AND SERIOUS INJURY CRASHES OCCURRED WHEN A DRIVER RAN OFF THE ROAD TO THE RIGHT ON A ROADWAY THAT IS NOT A FREEWAY.*



### TRIBAL LANDS

TRIBAL LAND CRASH TYPES BY PERCENTAGE OF FATALITIES:



HUMAN BEHAVIOR 59%



INTERSECTIONS 11%

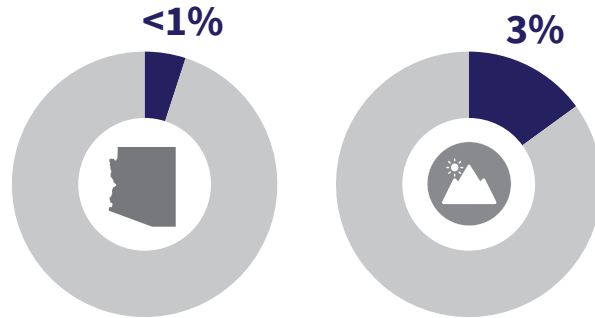


LANE DEPARTURE 69%



VULNERABLE ROAD USERS 16%

PROPORTION OF FATALITIES COMPARED TO ALL CRASHES:



THE PROPORTION OF FATAL CRASHES COMPARED TO ALL CRASHES ON TRIBAL LANDS IS FOUR-TIMES HIGHER THAN THE STATEWIDE AVERAGE. MOST FATAL CRASHES ARE CAUSED BY HUMAN BEHAVIORS SUCH AS IMPAIRED DRIVING, SPEEDING, AND/OR A LACK OF HELMETS/RESTRAINTS. IT SHOULD BE NOTED THAT NOT ALL TRIBAL CRASH DATA IS CURRENTLY REPORTED TO ADOT SO THE STATEWIDE CRASH DATASET DOES NOT FULLY REFLECT ALL TRIBAL CRASHES.



# 6

## **PUBLIC & STAKEHOLDER ENGAGEMENT**

## Public and Stakeholder Engagement

The SHSP development process included several opportunities for statewide public and stakeholder engagement. The SHSP reflects the input provided by the public, safety agencies, and private-sector safety partners. Common feedback themes included:

- Focus on improving human behavior
- Enforce/improve existing traffic laws
- Make roadway improvements
- Develop protected bicyclist and pedestrian facilities

### PUBLIC ENGAGEMENT

Public engagement was composed of virtual and in-person opportunities that covered both the SHSP and the ATSAP. The key engagement methods utilized are summarized below.

#### Online Engagement

An online survey was conducted via Social Pinpoint and was available to the public from April 15, 2024, through May 17, 2024. The survey was available in English, Spanish, Arabic, French, Portuguese, Russian, Tagalog, Vietnamese, Korean, Hindi, and Chinese (Mandarin) to ensure it was accessible to all members of the public. Engagement notification materials included meeting advertisements, social media posts, and email notices. Respondents were asked to rank factors that contribute to fatalities as well as effective strategies to improve traffic safety. Survey results are shown in **Appendix E**.

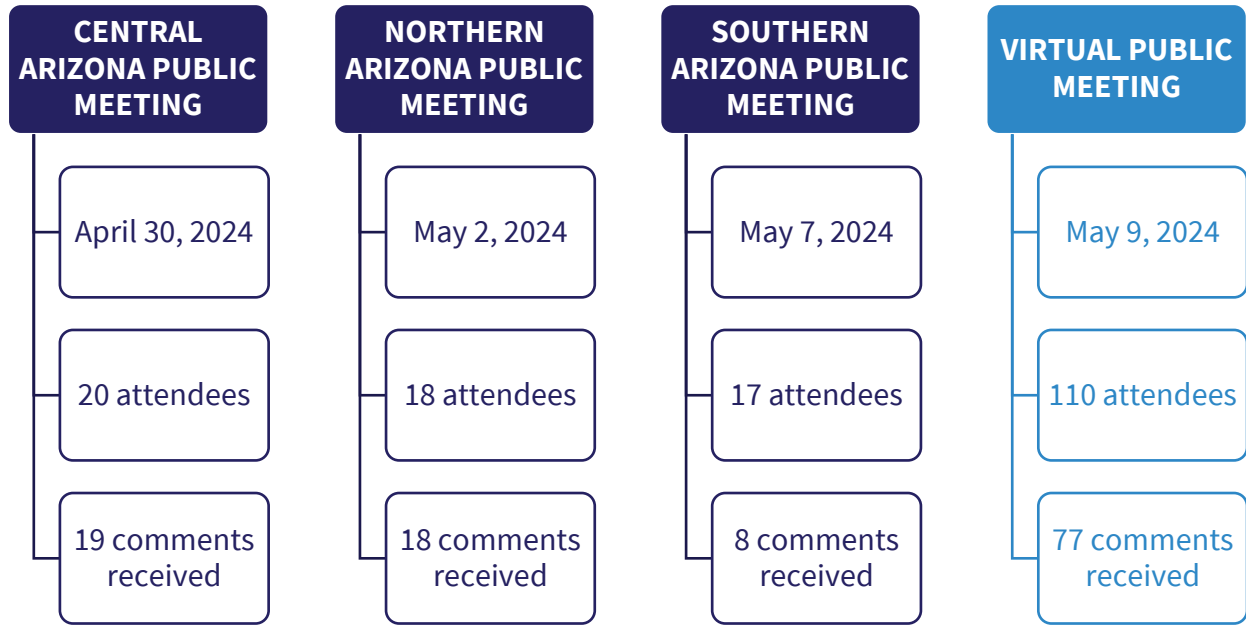
#### Public Meetings

The SHSP team held in-person public meetings across the state (northern – Flagstaff, central – Phoenix, and southern – Tucson) and one statewide virtual public meeting. All public meetings included a presentation and a question-and-answer (Q&A) session. The presentation provided an overview of the purpose of the SHSP and ATSAP efforts. Display boards were also available at in-person public meetings, allowing attendees to speak one-on-one with the project team and review the content on their own. Meeting information and attendance are shown on the following page, with more detail provided in **Appendix E**.



#### Participation Results

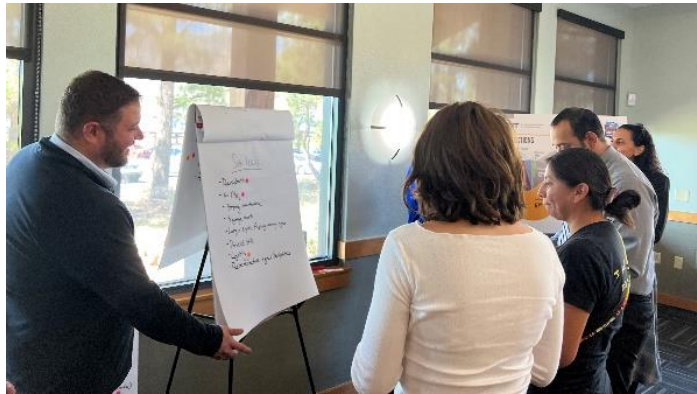
- **7,508 project website views**, with approximately **4,897 total visitors**
- **1,330,182 social media impressions** were made during the public outreach period on ADOT social media channels
- **4,378 public comments:** 2,833 survey form comments, 1,014 vision board comments, 346 draft documents comments, 47 verbal comments at in-person meetings, 77 Q&A responses at the virtual meeting, 56 emails, 4 mailed comments and 1 phone call
- **165 attendees** at public meetings



### STAKEHOLDER ENGAGEMENT

#### Stakeholder Safety Workshops

A series of stakeholder safety workshops was held throughout Arizona to gain input on best practices to improve traffic safety. The workshops allowed participants to rotate between Emphasis Area stations, where attendees would brainstorm best practices for strategies in each respective Emphasis Area. Brainstormed strategies were collected by Safe System element and then ranked among attendees. Frequently mentioned strategies from the workshops were considered during strategy development. Workshop information and attendance are shown on the following page, with more detail on proposed strategies provided in **Appendix F**.





## Tribal Outreach

To better reach Tribal partners, the SHSP team connected with each Tribe to inform them about the opportunity to provide input on the SHSP (and the ATSAP). The invitation included information on the safety stakeholder workshops and public meetings as well as the online survey opportunity. The email also included a customized flyer with directions to the nearest public meeting for each Tribe.

Representatives from seven of the 22 Tribes in Arizona and several Tribal-related entities participated in the stakeholder safety workshops or public meetings. Individual virtual meetings were also offered to Tribal partners upon request.



## Other Outreach Activities

To expand the outreach efforts of the SHSP and ATSAP, the project team offered to provide individual presentations to interested stakeholders. The following presentations were made:

- **Pima County Transportation Advisory Committee (PCTAC)** - May 28, 2024. The PCTAC makes recommendations related to transportation improvements within incorporated cities and towns where Pima County funds are being spent. The presentation provided an overview of the SHSP and ATSAP, introduced the Safe System Approach, and provided an opportunity for the PCTAC to ask questions and provide comments.
- **American Traffic Safety Services Association (ATSSA)** - June 11, 2024. The ATSSA represents the roadway safety infrastructure industry and strives to shift the focus of transportation towards saving lives and reducing injuries. The presentation provided an overview of the SHSP and ATSAP, introduced the Safe System Approach, and provided an opportunity for questions and comments.
- **Coalition for Transportation Choices** - June 12, 2024. The Coalition for Transportation Choices includes organizations from across the state of Arizona that advocate for a complete and equitable transportation system that benefits all people and the environment. The meeting was held in a workshop format to obtain input like the Stakeholder Workshops. Input provided is summarized in **Appendix F**.





# 7

## RECOMMENDED STRATEGIES

## Recommended Strategies

The SHSP was prepared in collaboration with safety stakeholders and is driven by the plan's Emphasis Areas. Input from the public and stakeholders, data analysis findings, and reviews of previously completed safety planning efforts (such as ADOT's Road Safety Assessments, FHWA's *Proven Safety Countermeasures*, and the National Highway Traffic Safety Administration's *Countermeasures That Work*) aided in the development of strategies for each Emphasis Area. These strategies, once implemented, are anticipated to reduce fatalities and serious injuries in Arizona, thereby making progress towards meeting the 2024 SHSP vision and goal.

Strategies are a mix of recommendations (covering the 4 E's of traffic safety) related to infrastructure improvements; policy, process, and law modifications; enforcement activities; education campaigns; and coordination efforts with emergency medical services, vehicle manufacturers, and other safety partners. Strategies are organized within each Emphasis Area by the five Safe System elements shown below to ensure the SHSP is in alignment with FHWA's Safe System Approach.



**SAFE ROADS**



**SAFE ROAD  
USERS**



**SAFE SPEEDS**



**SAFE VEHICLES**








**POST-CRASH  
CARE**






Location-based strategies should be applied not only where a historical safety issue has been identified but also at locations that have high potential safety risks. Strategies that are not location-based, such as those related to modifying policies and processes, should be considered for implementation by all local, regional, state, federal, Tribal, non-profit, and private-sector safety stakeholders.

For each strategy, expected implementation timeframes, anticipated cost/level of effort, and likely impact on the number of traffic fatalities and serious injuries have been estimated at a planning-level. A priority level has been assigned for each strategy based on these three implementation parameters, with higher priority weight on those strategies projected to significantly reduce traffic fatalities and serious injuries. The recommended strategies, along with their implementation parameters and priority levels, are shown on subsequent pages for each Emphasis Area. Additional details on each recommended strategy are in **Appendix A**.






## HUMAN BEHAVIOR EMPHASIS AREA STRATEGIES

ID	STRATEGY	TIMEFRAME	COST/ EFFORT	LIKELY IMPACT	PRIORITY LEVEL
 <b>SAFE ROADS</b>					
HB.1A	Incorporate more forgiving design elements.	Medium term	Medium	Medium	Medium
HB.1B	Simplify roadway environment.	Medium term	Medium	Medium	Medium
 <b>SAFE ROAD USERS</b>					
HB.2A	Promote seat belt education program.	Short term	Low	Low	Medium
HB.2B	Promote impairment and aggressive driving enforcement and education programs.	Short term	Medium	Medium	Medium
HB.2C	Support increased safety education and testing for all road users.	Medium term	Low	Low	Low
HB.2D	Support, through the provision of information, laws and agency policies that promote safety.	Medium term	Low	Medium	Medium
HB.2E	Collaborate with stakeholders to develop positive social-norming public information media campaigns.	Medium term	Medium	Low	Low
 <b>SAFE SPEEDS</b>					
HB.3A	Improve driver awareness of appropriate speeds.	Short term	Medium	Low	Low
HB.3B	Increase automated/mobile enforcement of speeds.	Short term	Medium	High	High
 <b>SAFE VEHICLES</b>					
HB.4A	Support vehicle systems that discourage impaired driving.	Short term	Low	Low	Medium
HB.4B	Support vehicle systems that discourage distracted/drowsy driving.	Short term	Low	Low	Medium
HB.4C	Collaborate with private stakeholders on traffic safety initiatives.	Medium term	Low	Low	Low
HB.4D	Support increased vehicle inspections.	Medium term	Low	Low	Low
 <b>POST-CRASH CARE</b>					
HB.5A	Promote safety at crash scenes.	Short term	Medium	High	High
HB.5B	Support improvements in communication options in rural areas.	Long term	Medium	Medium	Low
HB.5C	Improve DUI training for law enforcement.	Short term	Medium	Low	Low
HB.5D	Support, through provision of information, laws related to DUI abatement.	Medium term	Low	Low	Low
HB.5E	Support, through provision of information, laws related for hit-and-run abatement.	Medium term	Low	Low	Low






### VULNERABLE ROAD USERS EMPHASIS AREA STRATEGIES

ID	STRATEGY	TIMEFRAME	COST/ EFFORT	LIKELY IMPACT	PRIORITY LEVEL
 <b>SAFE ROADS</b>					
<b>VRU.1A</b>	Separate VRUs from vehicles using space and time.	<i>Long term</i>	<i>Medium</i>	<i>High</i>	<i>Medium</i>
<b>VRU.1B</b>	Improve visibility of VRUs.	<i>Short term</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>
<b>VRU.1C</b>	Enhance VRU connectivity.	<i>Long term</i>	<i>Medium</i>	<i>High</i>	<i>Medium</i>
<b>VRU.1D</b>	Incorporate VRUs more prominently in planning, design, and programming process.	<i>Short term</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>
 <b>SAFE ROAD USERS</b>					
<b>VRU.2A</b>	Reduce VRU safety risks through education of pedestrians and bicyclists.	<i>Medium term</i>	<i>Medium</i>	<i>Low</i>	<i>Low</i>
<b>VRU.2B</b>	Promote driver education on VRU behaviors.	<i>Medium term</i>	<i>Medium</i>	<i>Low</i>	<i>Low</i>
<b>VRU.2C</b>	Clarify and enforce laws and policies for all road users related to VRUs.	<i>Short term</i>	<i>Medium</i>	<i>Medium</i>	<i>Medium</i>
 <b>SAFE SPEEDS</b>					
<b>VRU.3A</b>	Clarify and enforce laws and policies related to electric/micromobility devices.	<i>Short term</i>	<i>Medium</i>	<i>Low</i>	<i>Low</i>
<b>VRU.3B</b>	Utilize context-appropriate speed limits.	<i>Medium term</i>	<i>Medium</i>	<i>Medium</i>	<i>Medium</i>
 <b>SAFE VEHICLES</b>					
<b>VRU.4A</b>	Promote early implementation of automated detection of VRUs by vehicles.	<i>Medium term</i>	<i>Low</i>	<i>Medium</i>	<i>Medium</i>
<b>VRU.4B</b>	Support, through the provision of information, programs that incentivize lower weight and height vehicles.	<i>Medium term</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>
 <b>POST-CRASH CARE</b>					
<b>VRU.5A</b>	Promote safety at crash scenes.	<i>Short term</i>	<i>Medium</i>	<i>High</i>	<i>High</i>
<b>VRU.5B</b>	Improve VRU crash and trauma data collection and sharing.	<i>Medium term</i>	<i>Medium</i>	<i>Low</i>	<i>Low</i>
<b>VRU.5C</b>	Improve crash and trauma data-sharing with VRU advocacy groups.	<i>Short term</i>	<i>Low</i>	<i>Low</i>	<i>Medium</i>






### INTERSECTIONS EMPHASIS AREA STRATEGIES

ID	STRATEGY	TIMEFRAME	COST/ EFFORT	LIKELY IMPACT	PRIORITY LEVEL
 <b>SAFE ROADS</b>					
<b>INT.1A</b>	Select appropriate intersection control.	<i>Medium term</i>	<i>Medium</i>	<i>Medium</i>	<i>Medium</i>
<b>INT.1B</b>	Reduce high-risk movements.	<i>Medium term</i>	<i>Medium</i>	<i>High</i>	<i>High</i>
<b>INT.1C</b>	Separate VRUs from vehicles using space and time.	<i>Long term</i>	<i>Medium</i>	<i>High</i>	<i>Medium</i>
<b>INT.1D</b>	Improve visibility for all users.	<i>Medium term</i>	<i>Medium</i>	<i>High</i>	<i>High</i>
<b>INT.1E</b>	Simplify intersections.	<i>Long term</i>	<i>Medium</i>	<i>Medium</i>	<i>Low</i>
 <b>SAFE ROAD USERS</b>					
<b>INT.2A</b>	Conduct high-visibility enforcement at intersections.	<i>Short term</i>	<i>Medium</i>	<i>High</i>	<i>High</i>
<b>INT.2B</b>	Improve road user education for newer treatments.	<i>Short term</i>	<i>Low</i>	<i>Low</i>	<i>Medium</i>
 <b>SAFE SPEEDS</b>					
<b>INT.3A</b>	Utilize context-appropriate speed limits.	<i>Medium term</i>	<i>Medium</i>	<i>Medium</i>	<i>Medium</i>
<b>INT.3B</b>	Reduce speeds on intersection approaches.	<i>Long term</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>
<b>INT.3C</b>	Increase automated/mobile enforcement of speeds.	<i>Short term</i>	<i>Medium</i>	<i>High</i>	<i>High</i>
 <b>SAFE VEHICLES</b>					
<b>INT.4A</b>	Promote advanced warning technology.	<i>Medium term</i>	<i>Low</i>	<i>Medium</i>	<i>Medium</i>
<b>INT.4B</b>	Support additional needs for advanced warning technology.	<i>Medium term</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>
 <b>POST-CRASH CARE</b>					
<b>INT.5A</b>	Promote safety at crash scenes.	<i>Short term</i>	<i>Medium</i>	<i>High</i>	<i>High</i>
<b>INT.5B</b>	Improve access to intersection cameras.	<i>Medium term</i>	<i>Medium</i>	<i>Medium</i>	<i>Medium</i>
<b>INT.5C</b>	Share agency data.	<i>Medium term</i>	<i>Low</i>	<i>Low</i>	<i>Low</i>

### LANE DEPARTURE EMPHASIS AREA STRATEGIES

ID	STRATEGY	TIMEFRAME	COST/ EFFORT	LIKELY IMPACT	PRIORITY LEVEL
 <b>SAFE ROADS</b>					
LD.1A	Keep vehicles in their lane.	Medium term	Medium	High	High
LD.1B	Improve recovery area.	Long term	High	Medium	Low
LD.1C	Improve roadway visibility.	Medium term	Low	High	High
LD.1D	Increase passing/climbing lane opportunities.	Long term	High	Medium	Low
LD.1E	Separate animals from vehicles using space.	Long term	Medium	Low	Low
 <b>SAFE ROAD USERS</b>					
LD.2A	Discourage distracted/drowsy driving.	Medium term	Medium	Low	Low
 <b>SAFE SPEEDS</b>					
LD.3A	Improve driver awareness of appropriate speeds.	Short term	Medium	Low	Low
LD.3B	Increase automated/mobile enforcement of speeds.	Short term	Medium	High	High
 <b>SAFE VEHICLES</b>					
LD.4A	Promote advanced warning technology.	Medium term	Low	Medium	Medium
LD.4B	Support additional needs for advanced warning technology.	Medium term	Low	Low	Low
 <b>POST-CRASH CARE</b>					
LD.5A	Promote safety at crash scenes.	Short term	Medium	High	High
LD.5B	Support improvements in communication options in rural areas.	Long term	Medium	Medium	Low
LD.5C	Share agency data.	Medium term	Low	Low	Low





## TRIBAL LANDS EMPHASIS AREA STRATEGIES

ID	STRATEGY	TIMEFRAME	COST/ EFFORT	LIKELY IMPACT	PRIORITY LEVEL
 <b>SAFE ROADS</b>					
TL.1A	Keep vehicles in their lane.	Medium term	Medium	High	High
TL.1B	Improve recovery area.	Long term	High	Medium	Low
TL.1C	Minimize roadside object crash severity.	Long term	High	Medium	Low
TL.1D	Separate animals from vehicles using space.	Long term	Medium	Low	Low
TL.1E	Simplify roadway environment.	Medium term	Medium	Medium	Medium
 <b>SAFE ROAD USERS</b>					
TL.2A	Promote seat belt education program.	Short term	Low	Low	Medium
TL.2B	Promote impairment and aggressive driving enforcement and education programs.	Short term	Medium	Low	Low
TL.2C	Support increased safety education and testing for all road users.	Medium term	Low	Low	Low
TL.2D	Support, through the provision of information, laws and agency policies that promote safety.	Medium term	Low	Medium	Medium
TL.2E	Conduct high-visibility enforcement at intersections.	Short term	Medium	High	High
TL.2F	Collaborate with stakeholders to develop positive social-norming public information media campaigns.	Medium term	Medium	Low	Low
 <b>SAFE SPEEDS</b>					
TL.3A	Improve driver awareness of appropriate speeds.	Short term	Medium	Low	Low
TL.3B	Increase automated/mobile enforcement of speeds.	Short term	Medium	High	High
 <b>SAFE VEHICLES</b>					
TL.4A	Support vehicle systems that discourage impaired driving.	Short term	Low	Low	Medium
TL.4B	Support vehicle systems that discourage distracted/drowsy driving.	Short term	Low	Low	Medium
TL.4C	Collaborate with private stakeholders on traffic safety initiatives.	Medium term	Low	Low	Low
TL.4D	Support increased vehicle inspections.	Medium term	Low	Low	Low
 <b>POST-CRASH CARE</b>					
TL.5A	Promote safety at crash scenes.	Short term	Medium	High	High
TL.5B	Support improvements in communication options in rural areas.	Long term	Medium	Medium	Low
TL.5C	Improve Tribal crash data collection and sharing.	Short term	Low	Medium	High

## SUMMARY OF HIGH-PRIORITY RECOMMENDED STRATEGIES

High-priority recommended strategies, organized by Safe System element, are summarized in **Table 1**. It is recommended that the Emphasis Area teams initially focus on implementing the high-priority strategies in coordination with other safety partners and stakeholders. Opportunities to advance lower-priority recommended strategies should also be pursued as resources, funding, and time permit. These recommended strategies, once implemented, are anticipated to significantly reduce crash-related fatalities and serious injuries, working towards the vision of everyone arriving safely home every day.

Table 1. High-Priority Recommended Strategies

ID	STRATEGY
 <b>SAFE ROADS</b>	
VRU.1B, INT.1D, LD.1C	Improve visibility of VRUs, all users, and roadway features.
VRU.1D	Incorporate VRUs more prominently in planning, design, and programming process.
INT.1B	Reduce high-risk movements.
LD.1A, TL.1A	Keep vehicles in their lane.
 <b>SAFE ROAD USERS</b>	
INT.2A, TL.2E	Conduct high-visibility enforcement at intersections.
 <b>SAFE SPEEDS</b>	
HB.3B, INT.3C, LD.3B, TL.3B	Increase automated/mobile enforcement of speeds.
 <b>POST-CRASH CARE</b>	
HB.5A, VRU.5A, INT.5A, LD.5A, TL.5A	Promote safety at crash scenes.
TL.5C	Improve Tribal crash data collection and sharing.

Note: No high-priority strategies were recommended within the Safe Vehicles Safe System element.



# 8

## IMPLEMENTATION

## Implementation

Development of this data-driven SHSP and adoption of its vision and goal are only the initial step in making this plan a reality. Developing safety plans does not prevent serious crashes or save lives; rather, this end is achieved by effective implementation of the recommended safety improvement strategies. Everyone has a role to play in achieving the 2024 SHSP goal to reduce traffic-related fatalities and serious injuries by 20% by 2030. The SHSP provides the framework for a comprehensive statewide safety program to effectively guide implementation of recommended safety strategies on all Arizona public roads.

The SHSP is a living document and will be reviewed as necessary to ensure it is current and on-track. This will be achieved through Emphasis Area teams coordinating with safety stakeholders for suggestions on implementation, conducting post-project evaluations to measure effectiveness, revising the development process to better support strategies recommended in the SHSP, and reporting on progress toward achieving Arizona’s vision and goal.

### SHSP MANAGEMENT STRUCTURE

Effective implementation of the SHSP vision, goal, and Emphasis Area strategies requires coordination and collaboration among all stakeholders. The SHSP defines a system, organization, and a process to achieve an enhanced level of roadway safety by integrating the work of the disciplines and agencies involved. The process involves stakeholders at every level of government in Arizona, including local, county, regional, state, Tribal, and federal partners, as well as the private sector, advocacy groups, and the public. These stakeholders include representation from all 4 E’s of safety and elements of the Safe System Approach. **Figure 8** shows the SHSP management structure established to assure oversight of the plan’s implementation over the next five years.

Figure 8. SHSP Management Structure



## ROLES AND RESPONSIBILITIES

### Executive Committee

The Executive Committee serves in a leadership capacity for developing, promoting, and implementing cost-effective transportation safety strategies within the state to reduce fatalities and serious injuries from crashes on Arizona's public roadway system.

The roles and responsibilities of the Executive Committee over the next five years are:

- Establish SHSP policies and procedures, review progress, provide advice and guidance, address challenges, and remove barriers
- Provide support and assistance to specific SHSP strategies as appropriate
- Provide support and assistance to the Emphasis Area teams as appropriate
- Consult the SHSP when updating agency or organization plans and programs
- Promote collaboration among agencies and stakeholders
- Share progress on safety initiatives
- Meet semi-annually, or as deemed necessary

### SHSP Administrator

The SHSP Administrator role falls under the direction of the ADOT Transportation System Management and Operations Division (TSMO) Director and State Traffic Safety Manager within the ADOT TSMO Division. The SHSP Administrator is responsible for managing implementation of the SHSP.

The roles and responsibilities of the SHSP Administrator over the next five years are:

- Manage the coordination, implementation, and evaluation of the SHSP
- Serve as the direct line of communication between the Executive Committee, Emphasis Area team leaders, and Emphasis Area team members
- Plan, organize, facilitate, and document Executive Committee and Emphasis Area team meetings
- Provide assistance, when appropriate, to overcome safety-related challenges
- Provide recommendations to the Executive Committee relating to major plan initiatives such as the HSIP, updating the SHSP, adding or revising goals, and leadership changes to the Emphasis Area teams
- Review implementation progress and performance for each of the Emphasis Areas and provide recommendations for enhancements
- Coordinate annual updates to SHSP strategies, implementation steps, and performance reporting, including coordination with other agencies on annual safety performance targets
- Assist ADOT staff in coordinating and facilitating safety events such as a safety summit
- Provide analytical support to summarize annual crash counts by characteristics and respond to specific analysis requests from the Executive Committee and Emphasis Area teams
- Evaluate the SHSP progress annually relative to meeting established performance measures on fatality and serious injury goals, process evaluation, and accomplishments

### Emphasis Area Teams

Emphasis Area teams are composed of federal, state, regional, Tribal, and local safety stakeholders, as well as other subject-matter experts and safety advocates. The teams are responsible for developing

and implementing action plans for the strategies recommended in the SHSP. Emphasis Area team leaders work with the SHSP Administrator to provide guidance and direction for their teams and coordinate with other branches of the SHSP management structure. These team leaders are considered “Safety Champions” who provide the enthusiasm and momentum to promote communication and collaboration among team members and other safety partners.

The roles and responsibility of the Emphasis Area teams over the next five years are:

- Meet quarterly or as deemed necessary
- Ensure a multidisciplinary approach by including representatives from the commonly recognized 4 E’s of safety and the elements of the Safe System Approach as well as consulting the SHSP Administrator where assistance is needed on team composition
- Review and implement Emphasis Area strategies, develop action plans for strategies including determining who is responsible for implementation, track progress, determine if revisions to SHSP strategies are necessary, identify new strategies, and notify the SHSP Administrator if assistance is needed during implementation
- Participate in ongoing tracking and evaluation of outputs and outcomes associated with strategy action plans, including development of performance measures for evaluating the effectiveness of implemented strategies
- Receive and review updates on SHSP-related campaigns, trainings, and other programs
- Prepare quarterly progress reports for the SHSP Administrator and the Executive Committee
- Provide assistance, when appropriate, to overcome safety-related challenges
- Work in cooperation with the SHSP Administrator to provide recommendations to the Executive Committee on all major plan initiatives, such as the HSIP, updating the SHSP, adding or revising goals, and changes in Emphasis Area team leadership
- Be an advocate for SHSP implementation

### **Regional and Local Safety Planning Efforts**

Regional and local jurisdictions are encouraged to implement the 2024 SHSP’s vision, goal, and recommended strategies in their upcoming safety planning efforts and to participate in the SHSP Emphasis Area teams. Regional and local jurisdictions can consult with the SHSP Executive Committee and the SHSP Administrator as a resource to implement the recommended strategies.

### **Tribal Safety Planning Efforts**

Tribal planning partners are encouraged to implement the 2024 SHSP’s vision, goal, and strategies in their upcoming safety planning efforts. Tribal partners are also encouraged to participate in the Tribal Lands Emphasis Area team to work together with ADOT and other stakeholders on how to improve safety on Tribal lands, including how to improve Tribal crash data collection and sharing.

### **Safety Data-Sharing Efforts**

Safety planning depends on access to accurate and comprehensive safety-related data and collaborative stakeholder coordination. During SHSP implementation, it is recommended that enhancements to safety data-sharing be a priority to ensure crash trends, and the types and extent of injuries, are accurately and quickly identified so they can be mitigated. It is recommended that a Safety Data-Sharing team be organized in a similar way to the Emphasis Area teams to facilitate continued

coordination among agencies regarding sharing electronic reporting of crash data, enforcement activities and convictions data, motor vehicle data, emergency medical services data, and trauma data.

### Safety Promotion Efforts

Opportunities should be sought to promote safety as a high priority in both public and technical forums. This could be done through means such as issuing press releases to celebrate safety-related accomplishments, highlighting specific calendar dates that observe safety-related topics (see **Appendix G**), and providing links to safety-related information (see **Appendix H**).

## FUNDING

Implementation of the SHSP includes identifying potential funding resources for the recommended Emphasis Area strategies. Funding resources should be leveraged across agencies and jurisdictional boundaries, where appropriate.

### Federal Funding Sources

The Federal Government provides a wide variety of funding sources that can be used to implement strategies identified in the SHSP. An explanation of federal funding opportunities can be found in **Appendix B**.

### State Funding Sources

The State of Arizona administers the Highway User Revenue Fund (HURF), taxing motor fuels and collecting vehicle registration and operation fees. These collections include gasoline and use fuel taxes, motor carrier taxes, vehicle license taxes, motor vehicle registration fees, and other miscellaneous fees. Revenues from the tax are deposited into the Arizona HURF and are distributed to cities, towns, counties, and the State Highway Fund. The resulting funds are a primary source of revenue available to Arizona for highway construction, improvements, and other related expenses.

The Arizona Governor's Office of Highway Safety (GOHS) provides grant funding for programs aimed at enhancing road safety. The programs address critical areas such as speeding, reckless driving, impaired driving, occupant protection, motorcycle safety, and pedestrian/bicyclist safety.

### Regional Funding Sources

In Arizona, regional entities can implement taxes to fund transportation projects in their respective regions.

In 2004, Maricopa County implemented a voter-approved 20-year half-cent sales tax. The revenue is split between freeways/highways, arterials, and transit improvements that are part of the Maricopa Association of Governments (MAG) Regional Transportation Plan. Safety can be a component of any of these types of improvements. This tax is scheduled to end December 31, 2025, although a 20-year renewal of the tax will go to Maricopa County voters in November 2024 for approval. If approved, an estimated \$10 million per year is expected to be dedicated specifically to safety improvements per the MAG Regional Strategic Transportation Infrastructure Investment Plan (RSTIIP).

In 2005, Pinal County voters approved the extension of a 20-year half-cent sales tax that can be used to build and maintain roads in Pinal County through 2026. These improvements can include safety

improvements. This tax will continue if Pinal County voters renew the 20-year half-cent sales tax in the November 2024 election.

In 2006, Pima County implemented a voter-approved 20-year half-cent sales tax. This tax is scheduled to end June 30, 2026. This tax funds any project in the Regional Transportation Authority (RTA) Plan, which identifies roadway, safety, transit, and environmental and economic vitality improvements. RTA is currently finalizing a new 20-year regional plan that will be implemented if Pima County voters renew the 20-year half-cent sales tax.

In 2014, Gila County implemented a voter-approved 20-year half-cent sales tax that can be used for highway and street improvements only. These improvements can include additional safety measures.

### **Local Funding Sources**

Local funding sources for safety improvements can include resources such as general fund allocations, local dedicated transportation taxes, special improvement districts, and impact fees.



# APPENDICES

**Appendix A – Detailed Recommended Strategies**

**Appendix B – Funding Opportunities**

**Appendix C – Vulnerable Road User Safety Assessment**

**Appendix D – Safety Analysis**

**Appendix E – SHSP and ATSAP Public Engagement  
Summary**

**Appendix F – SHSP and ATSAP Stakeholder  
Engagement Summary**

**Appendix G – 2025 National Highway Safety-Related  
Observances**

**Appendix H – Safety-Related Data Resources**

2024

ARIZONA  
Strategic Highway Safety Plan

## APPENDIX A

# Detailed Recommended Strategies

## APPENDIX B

# Funding Opportunities

**APPENDIX C**  
**Vulnerable Road User  
Safety Assessment**

2024

ARIZONA  
Strategic Highway Safety Plan

# APPENDIX D Safety Analysis

**APPENDIX E**  
**SHSP and ATSAP Public  
Engagement Summary**

## APPENDIX F

# SHSP and ATSAP Stakeholder Engagement Summary

## APPENDIX G

# 2025 National Highway Safety- Related Observances

# APPENDIX H Safety-Related Data Resources