

Arizona Traffic Crash Data



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Southwestern Tribal Technical Assistance Program Summit
Tribal and Local Police Departments Partnership for Crash Data
Wednesday, March 13, 2024

2023 Crash Data*

121,684 Crashes

53,970 Injuries

1308 Fatalities

36 Bicyclists

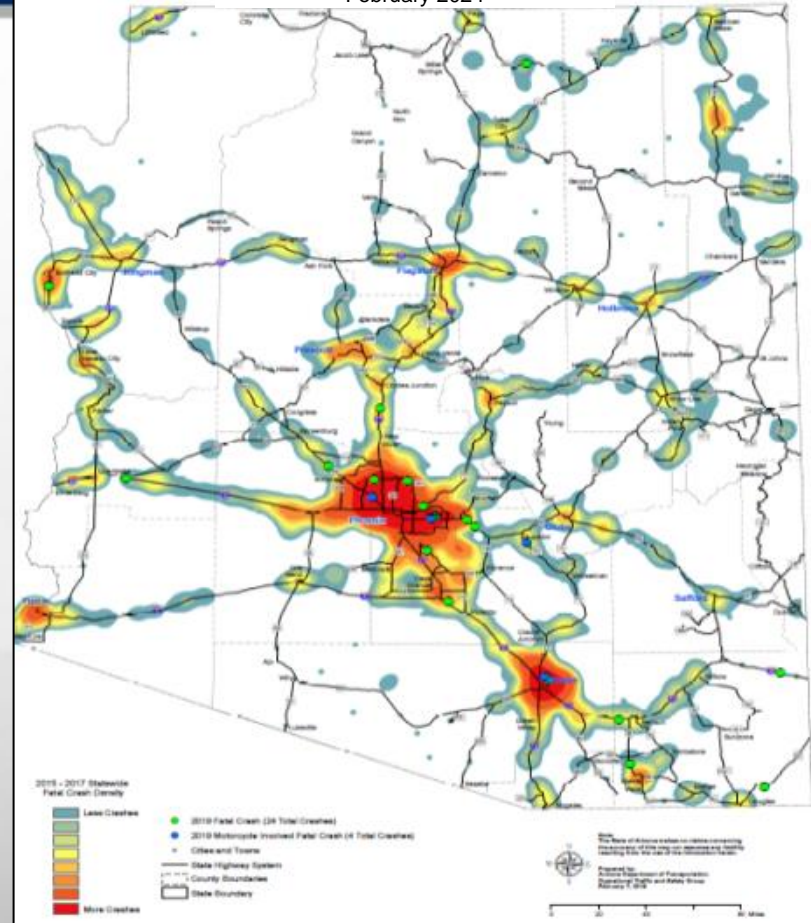
240 Pedestrians

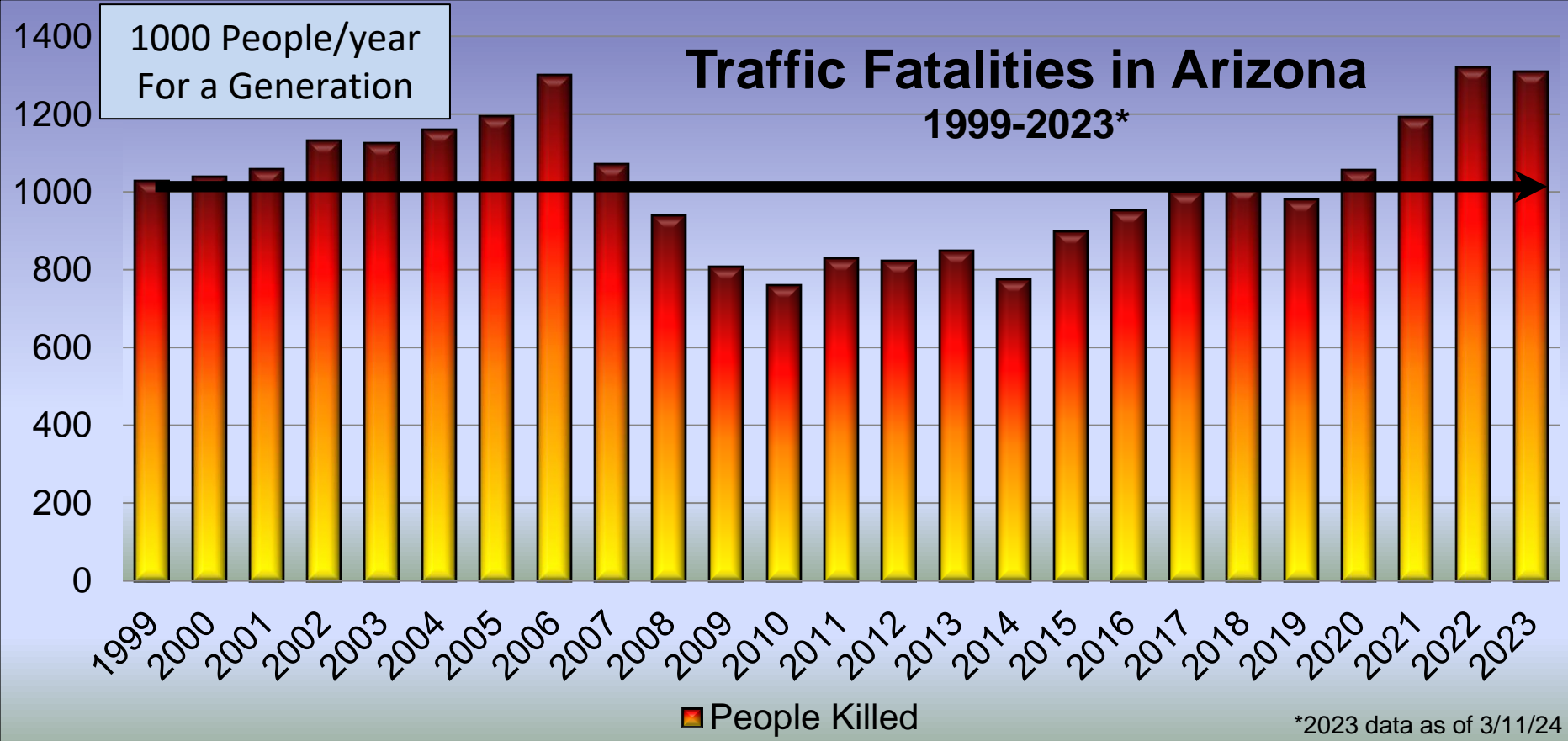
194 Motorcyclists

838 Vehicle Occupants

*2023 data as of 3/4/2024

2023 All Fatal Crashes in Arizona February 2024





Traffic Crash Factors

Roadway use including:

- Road Design
- Speeds
- Distraction
- Growth




How do we stop this?

Crash Data

- Record of how a road is being used or misused.
- Backwards looking but one element in assessing risk.
- Can help save lives.

Agenda

Arizona Traffic Crash Data

- Crash definition
 - Data collection
 - Data use
- 

Desired Outcome of Presentation

Collect and use your crash data to help save lives of your members, residents and guests using your roads

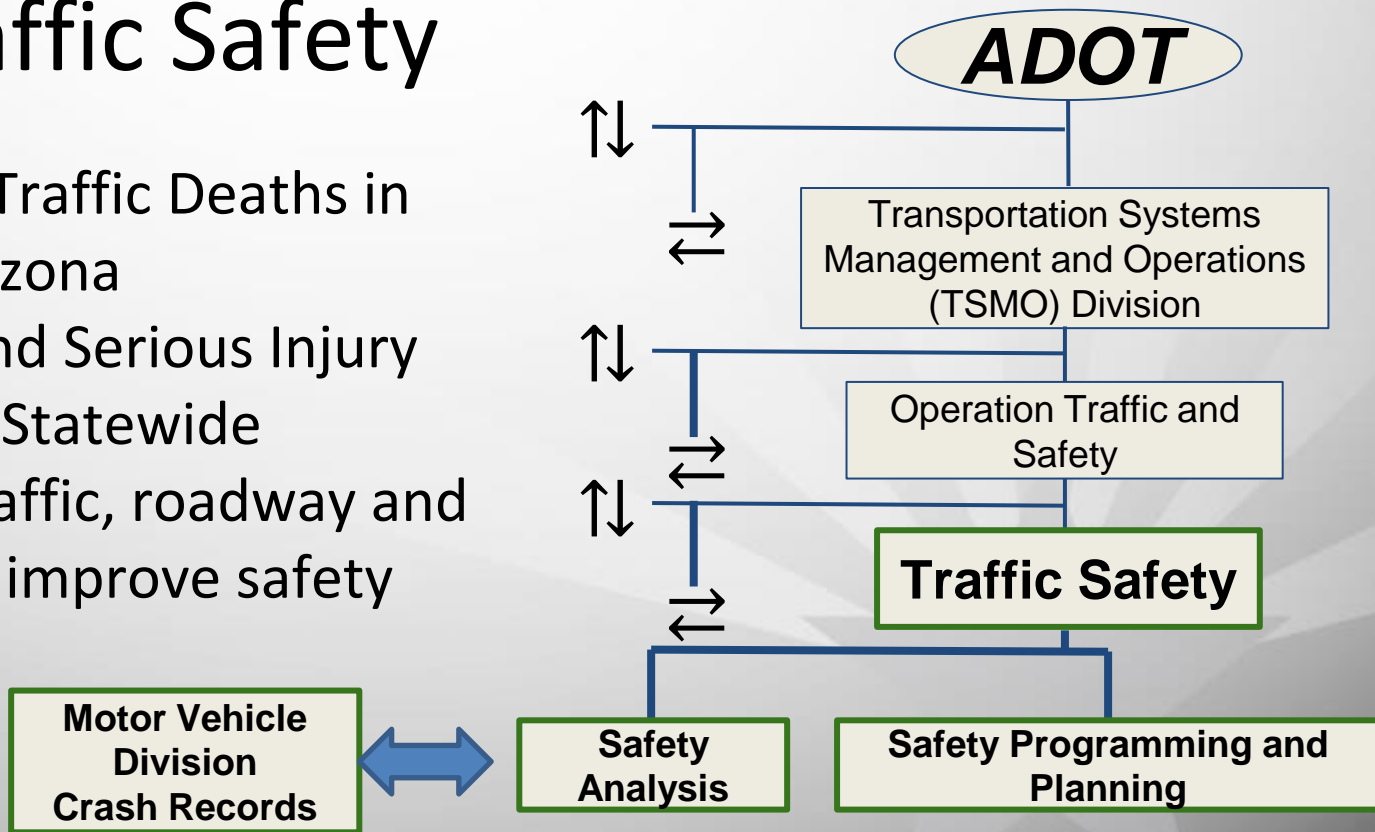
ADOT can help you regardless of whether you send us your data or not

ADOT Traffic Safety

Mission: End Traffic Deaths in Arizona

Focus: Fatal and Serious Injury Crashes Statewide

Task: Analyze traffic, roadway and crash data to improve safety



ADOT Tribal Liaison Office

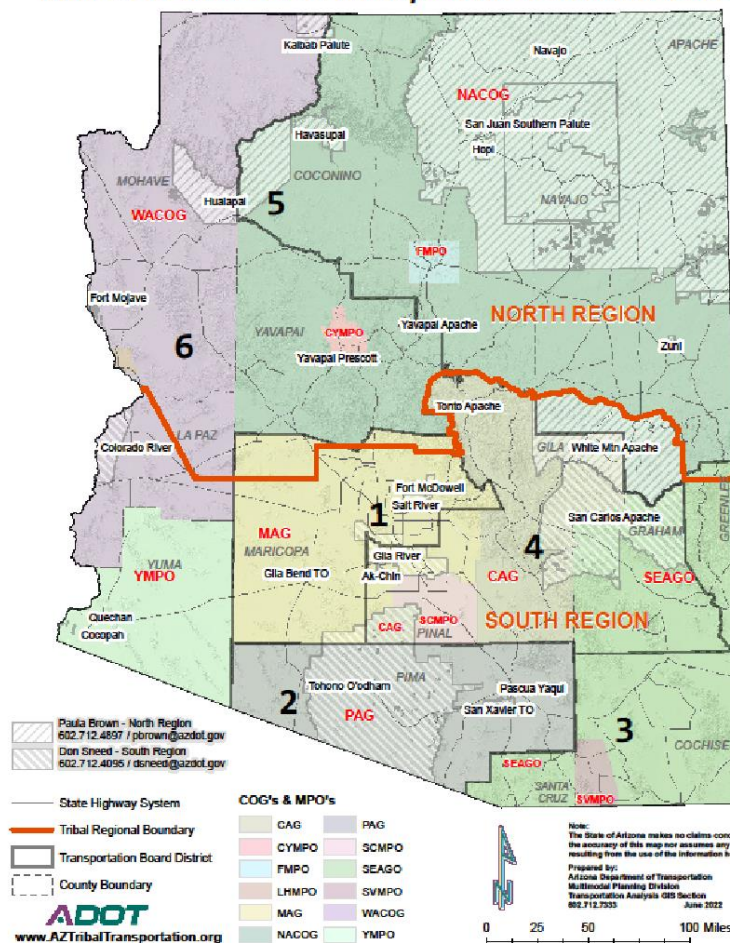
Paula Brown

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Don Sneed

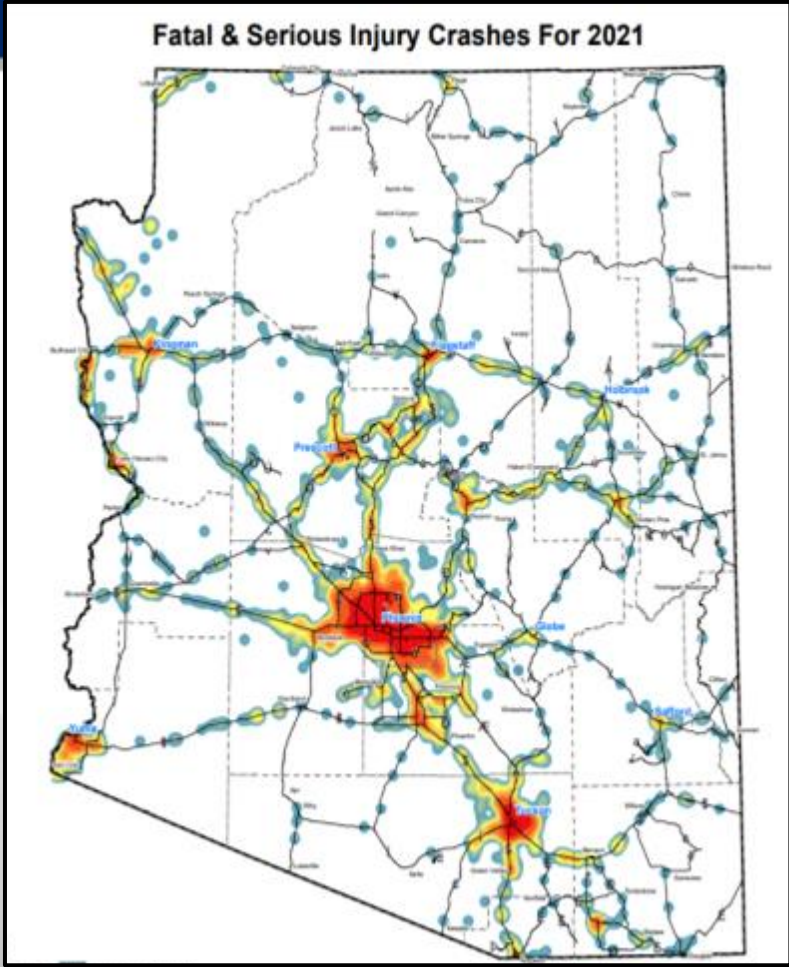
Multimodal Planning Division
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ADOT Tribal Liaison Regions with COG's/MPO's & Transportation Board Districts



Traffic Crashes

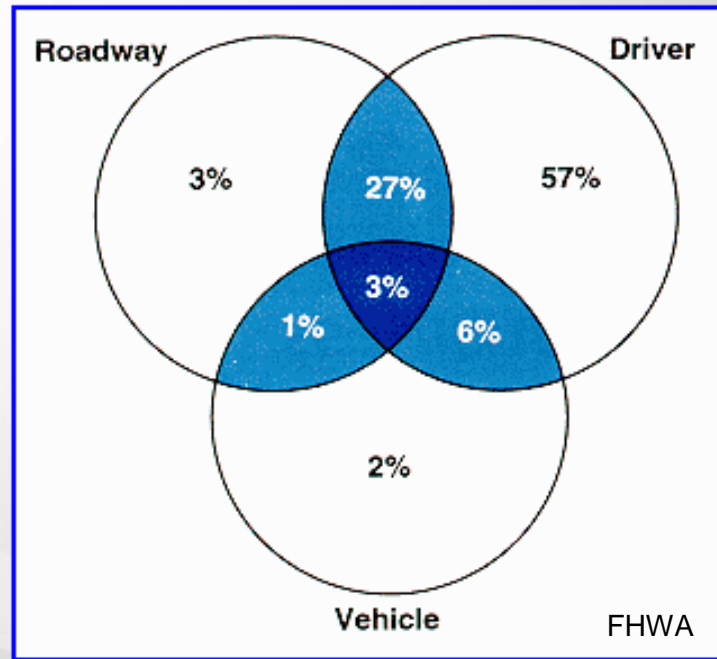
Random events occurring in predictable places



Causes

Often involves

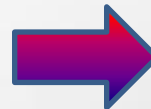
- Multiple factors
- Lack of intent
- Chance
- Multiple missed opportunities to avoid crash



What is a Traffic Crash?

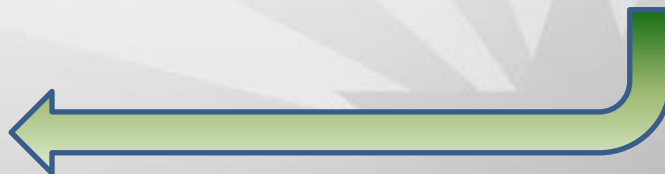
- Incident involve one or more **motor vehicles**
- Resulted in bodily injury, death or damage to the property in excess of **two thousand dollars**
- Incident an **un-stabilized situation**
- Un-stabilized situation, injury or death originated or occurred on a **public road**

Crash Data Collection

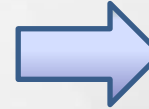
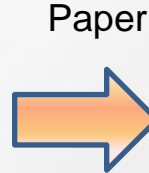
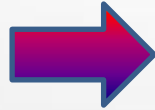


ARIZONA CRASH REPORT	
1. Date, Time and Location of Crash	2. Reporting Agency
3. Description of Crash	4. Driver Information
5. Vehicle Information	6. Injury Information
7. Roadway Information	8. Weather and Visibility
9. Crash Diagram	10. Other Information

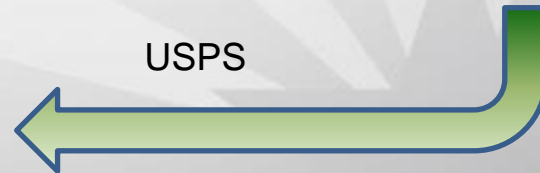
**Collection Site
ADOT or
Tribal
Agency**



ADOT Data Collection



Personal Identifying information (PII) can be removed before sending report to ADOT



E-Transmission

Electronic Crash Reporting

Arizona recommends electronic crash reporting regardless of whether data is eventually sent to ADOT or not.

Electronic collection:

1. Reduces reporting time
2. Reduced risk of law enforcement and other parties to secondary crashes

Arizona Crash Report

The image shows a detailed screenshot of the Arizona Crash Report form. The form is divided into several numbered sections:

- Section 1:** General information including date, time, location, and weather.
- Section 2:** Vehicle information, including make, model, year, and license plate.
- Section 3:** Driver information, including name, license number, and insurance details.
- Section 4:** Crash circumstances, including a detailed description of the event, road conditions, and witness information.
- Section 5:** Injury and damage information.
- Section 6:** Reporting officer information.
- Section 7:** Agency information.
- Section 8:** Additional notes and comments.

The screenshot shows the ADOT website page for crash report forms and training. The page includes a navigation menu at the top with links for About, Motor Vehicles, Projects, Business, Planning, News, Traffic, Maps, and Contact. The main content area is titled "Arizona Crash Report Forms, Resources and Training Events" and features a list of "Forms and Resources" and "Law Enforcement Training Events".

Forms, Resources and Training Events

- Forms, Resources and Training Events
- ACS Training Videos

Forms and Resources

- 2022 Arizona Crash Report
 - Crash Report Behavior Presentation
 - Crash Manual Desk Reference Guide
- Instruction Manual - Arizona Crash Report
- 2022 Arizona Fatal Crash Notifications
- 2022 Arizona Fatal Supplement
- 2022 Arizona Occupant Supplement
- 2022 Accident Measurement Supplement
- Arizona Truck/Bus Supplement
- Diagram and Measurement Supplement
- L-17 Off Highway Reference Markers
- TruT Users Presentation - Mar 23, 2021

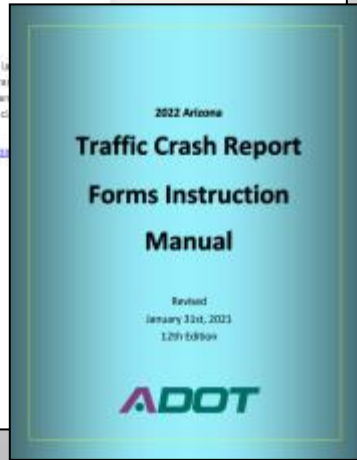
Law Enforcement Training Events

The Arizona Crash Report training course is a 3 hour session intended to provide law enforcement personnel with a detailed look at all of the required fields on both the primary crash report and the Truck/Bus Supplement. Many of the fields on the crash report are confusing and have led to misconceptions on what data is intended to be collected. This training will help clear up these misconceptions and has been determined to qualify for AZPOST continuing training credit.

If your agency would like to host this training, please contact Glen Robinson glrobin@azdot.gov for scheduling.

Business

- ADOT Broadband Office
- ADOT Business Coach On Demand
- Business Engagement and Compliance
- Civil Rights/External EEO Contractor Compliance
- Engineering and Construction
- Contracts and Specifications
- Project Management Services
- Highway Maintenance
- Procurement
- Engineering Consultants
- Programs and Partnerships
- Permits
- Equipment Services
- Standards and Guidelines



Page 1: General Details

Collected data includes:

- Date, time, location
- Injury severities
- Limited PII* (Age, sex only)
- Protective equipment use
 - Seatbelts, airbags, helmets, etc.

* *Name, address, citation data not collected to ADOT Traffic Crash Database*

The image shows a detailed Arizona Crash Report form. The top section includes the report ID, date, time, and location. Below this, there are sections for vehicle information, driver information, and injury details. The form is divided into several numbered sections (1-10) and includes various checkboxes and input fields for recording crash details.

Safety Devices & Injury Severity

Safety Devices (SD) 0 - Not Applicable 1 - None Used 2 - Lap Belt 3 - Shoulder and Lap Belt 4 - Child Restraint System 5 - Helmet Used 50 - Other 51 - Unknown	Airbag (AB) 0 - Not Applicable 1 - Deployed - Front 2 - Deployed - Side (Door, seatback) 3 - Deployed - Curtain (roof) 4 - Deployed - Other (knee, airbelt, etc.) 5 - Deployed - Combination 6 - Deployed - Unknown Location 7 - Not Deployed	Injury Severity (IS) 1 - No Injury 2 - Possible Injury 3 - Suspected Minor Injury 4 - Suspected Serious Injury 5 - Fatal Injury 51 - Unknown/Not Reported	Seating Position 18 - Front Seat - Other (child in Lap) 28 or 38 - Additional passenger in vehicle by row 40 - In enclosed cargo area 41 - In unenclosed cargo area 42 - Riding on Vehicle Exterior 50 - Other 51 - Unknown
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<input type="checkbox"/> DL #	<input type="checkbox"/> No Valid License/Permit	State	Class	End.	<input type="checkbox"/> Driver	<input type="checkbox"/> Driverless	Name (First, Middle, Last)	<input type="checkbox"/> ejected	<input type="checkbox"/> extricated	Suffix	Sex
Restrictions		Address									
Date of Birth		Owner/Carrier Name		<input type="checkbox"/> Same as Driver							
Color		Vehicle Year	Make	Bc							
VIN		Autonomous Vehicle									
Safety Devices		Airbag	Injury Severity	Poste Limit							
Vehicle Removed to (Address/Storage Location Identifier)											

Injury Severity (IS) - injury severity level for each person in crash as known when report is completed

1 - No Injury - no physical evidence of injury and person does not complain of injury

2 - Possible Injury - injury is claimed but not visible - limping, soreness, momentary loss of consciousness

3 - Suspected Minor Injury - evident at scene of crash - lump on head, minor cuts, abrasions, bruises

4 - Suspected Serious Injury - severe cut with exposure to underlying tissue, broken, distorted extremity, crush injuries, skull, chest, abdominal injuries other than minor cuts/bruises, significant burns, paralysis, unconscious when taken from scene

5 - Fatal Injury - any injury which results in death within **30 days** of crash

51 - Unknown/Not Reported - use if person not present during time of investigation

Manner of Crash Impact

Identifies that manner in which vehicles collide; if crash involved vehicle and pedestrian or pedalcyclist, use manner of crash based on vehicle action

17 — MANNER OF CRASH IMPACT

- | | |
|---|---|
| <input type="checkbox"/> 1 SINGLE VEHICLE | <input type="checkbox"/> 6 SIDESWIPE, SAME DIRECTION |
| <input type="checkbox"/> 2 ANGLE (front to side)
(other than left turn) | <input type="checkbox"/> 7 SIDESWIPE, OPPOSITE
DIRECTION |
| <input type="checkbox"/> 3 LEFT TURN | <input type="checkbox"/> 10 U-TURN |
| <input type="checkbox"/> 4 REAR END (front-to-rear) | <input type="checkbox"/> 50 OTHER |
| <input type="checkbox"/> 5 HEAD-ON (front-to-front)
(other than left turn) | <input type="checkbox"/> 51 UNKNOWN |

Single Vehicle - 1 vehicle involved in crash

Angle (front to side other than left turn) - 2 vehicles approaching from angle; example: T-bone crash

Left Turn - 2 vehicles approaching from opposite direction where 1 vehicle turns left in front of the other

Rear End - front of vehicle impacts rear of another

Head-On - front end of 2 vehicles impact together

Sideswipe, Same Direction - vehicles traveling same direction and impact is on the sides

Sideswipe, Opposite Direction - vehicles traveling opposite direction and impact is on the sides

U - Turn - at least 1 vehicle making U-turn and collision results

Other - used for any collision not described by the other attributes

Unknown - used when investigator could not determine manner of crash impact

Violations/Behavior

Speed Related

Most misunderstood,
improperly reported and
misquoted section of form

Be careful interpreting speed data!

22 — VIOLATIONS/BEHAVIOR

CHECK ALL THAT APPLY

UNIT #

- | | | | |
|--------------------------|--------------------------|----|-------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | 1 | NO IMPROPER ACTION |
| <input type="checkbox"/> | <input type="checkbox"/> | 2 | SPEED TOO FAST FOR CONDITIONS |
| <input type="checkbox"/> | <input type="checkbox"/> | 3 | EXCEEDED LAWFUL SPEED |
| <input type="checkbox"/> | <input type="checkbox"/> | 4 | FOLLOWED TOO CLOSELY |
| <input type="checkbox"/> | <input type="checkbox"/> | 5 | RAN STOP SIGN |
| <input type="checkbox"/> | <input type="checkbox"/> | 6 | DISREGARDED TRAFFIC SIGNAL |
| <input type="checkbox"/> | <input type="checkbox"/> | 7 | MADE IMPROPER TURN |
| <input type="checkbox"/> | <input type="checkbox"/> | 8 | DROVE LEFT OF CENTER LINE |
| <input type="checkbox"/> | <input type="checkbox"/> | 9 | WRONG WAY DRIVING |
| <input type="checkbox"/> | <input type="checkbox"/> | 10 | CROSSED MEDIAN |
| <input type="checkbox"/> | <input type="checkbox"/> | 11 | PASSED IN NO PASSING ZONE |
| <input type="checkbox"/> | <input type="checkbox"/> | 12 | UNSAFE LANE CHANGE |
| <input type="checkbox"/> | <input type="checkbox"/> | 13 | FAILED TO KEEP IN PROPER LANE |
| <input type="checkbox"/> | <input type="checkbox"/> | 17 | DID NOT USE CROSSWALK |
| <input type="checkbox"/> | <input type="checkbox"/> | 20 | FAILED TO YIELD RIGHT-OF-WAY |
| <input type="checkbox"/> | <input type="checkbox"/> | 49 | AGGRESSIVE DRIVING |
| <input type="checkbox"/> | <input type="checkbox"/> | 50 | OTHER _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | 51 | UNKNOWN |

2. Speed Too Fast For Conditions - traveling at speed that was unsafe for road, weather or traffic conditions present at the time

- **NOTE: Don't use for distraction, fatigue, impairment, or for other violations such as disregarded traffic signal or ran stop sign**

3. Exceeded Lawful Speed - used for driver exceeding speed limit

Arizona Traffic Crash Databases

- **ALISS – Accident Location Information Surveillance System** soon to be replaced by **CRIS – Crash Records Information System**
 - Master crash data set for all collected traffic crash data entered
- **FARS – Fatality Analysis Reporting System**
 - Detailed information on all fatal crashes
 - National database
- **ACIS – Arizona Crash Information System**
 - ALISS data is imported and geo-coded onto roadway network

Fatality Analysis Reporting System

National dataset of all fatal traffic crashes

- Arizona data supplied by ADOT
- Includes details beyond the crash form including vehicle information and ME data
- Allows comparison of state datasets



Public access allowed through NHTSA and ADOT for state, regional, tribal and local governments, consultants and approved research.

Arizona Crash Information System (ACIS)

Statewide database of all traffic crash reports geo-coded to roadway system

- Allows searching by agency, region, segment or intersection
- Customized queries
- Production of maps, charts and dashboards



Access limited to state, regional, tribal and local governments consultants & approved research.

Annual Network Screening

Frequency analysis (hot spot) of high fatal & serious injury crash locations (SHS and Local)

- Most recent five years of data



ARIZONA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION SYSTEMS MANAGEMENT AND
 OPERATIONS (TSMO) DIVISION
 OPERATIONAL AND SAFETY GROUP
 TRAFFIC SAFETY

2021 NETWORK SCREENING
 OPERATIONAL STUDY REPORT

September 2022

ADOT Transportation Systems Management and Operations		Arizona Department of Transportation Traffic Safety Section Network Screening Pedestrian Crash Type - SHS Intersections												
Crash Type 5: Pedestrian Network: SHS		Period: 2016-2020					Query Date: 11/16/2021							
Intersections								Severity - Pedestrian Crashes Only					Total Crashes	Comments
#	On Road / Milepost	Intersecting Street / MP	Traffic Control	ADOT District	DPS District	FHWA Region	ADOT Traffic Region	K+A Total	Fatal (K)	Serious (A)	Minor/ Poss (B/C)	PDO (O)		
1	SR-260 (MP 208.78)	Western Dr	Signalized	Northcentral	District 12	A-1	Northern	2	2	0	0	0	2	
2	SR-260 (MP 252.12)	Goodnow Rd	1-way stop	Northcentral	District 11	A-1	Northern	2	1	1	0	0	2	
3	SR-89A (MP 372.45)	Mountain Shadows Dr / Northview Rd	Signalized	Northcentral	District 12	A-1	Northern	2	0	2	0	0	2	
4	I-17 NB Frontage Rd (MP 202.41)	Osborn Rd	1-way stop	Central	Metro Central	A-4	Central	2	0	2	0	0	2	
5	I-17 NB Frontage Rd (MP 202.91)	Indian School Rd	Signalized	Central	Metro Central	A-4	Central	2	0	2	0	0	2	
6	I-10 EB on Ramp / Frontage Rd (MP 139.64)	51st Ave	Signalized	Central	Metro Central	A-4	Central	2	0	2	0	0	2	

Notes:
 1) 2017 Arizona Traffic Crash Manual Definition only without intersection related check box. Any crash within 150 feet of the intersection irrespective of if the intersection related box was checked or not on the report.

Annual Network Screening Report

- Input compiled into Annual Network Screening Report (November/December)
- Report informs traffic safety priorities on the state highway system
- Eventual goal is to shift network screening from frequency to predictive modeling

How We Use Crash Data

- Identify potential problem areas or trends
 - Network screening
- Inform/education
 - Contextualization
- Litigation defense
- Research



What We Look For

Pattern? Yes – No

More than once or twice during study period

Solution? Yes – No

We can prevent future occurrences

Actionable? Yes – No

We can implement solution



Results

Reviewed with:

- ADOT Management,
- District and Regional Traffic
- FHWA and
- DPS Command Staff

Results include:

- 50-60 Staff Field Reviews
- 5-10 Formal RSA
- 3-5 HSIP applications per year

Traffic Safety Update
Southwest Engineering District

Southwest District Non-Signalized Intersections Statewide

ROAD SAFETY ASSESSMENT APPLICATION

Agency:	Title of Project:	
County:	COG/MPD:	
District:	Date:	
Contact:	Phone:	E-Mail:

ARIZONA HIGHWAY SAFETY IMPROVEMENT PROGRAM MANUAL

Arizona Department of Transportation
Transportation Systems Management & Operations Group
Traffic Safety Section
May 2011
Revised February 2013

Crash Reporting Resources

1. Crash report form training
2. Electronic reporting setup and training
 - TraCS software
 - Scanners, servers, printers, etc. and other hardware
3. Crash data analysis
 - ADOT Traffic Safety, COG/MPO Safety Sections

Outcome

Regardless of whether you end up sending us your crash data, we hope you collect and use it.

ADOT can help you get started or make improvements to your reporting, collection or analysis of crash data.

Questions?

**Traffic Safety Starts at and Ends at Home,
*Drive, bike and walk safely!***

Don Sneed

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