

# Planning to Prevent Crash Injuries on Tribal Land

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American Indian/Alaska Native Health Disparities Program  
Grant





# Topics

- Background
  - Inter Tribal Council of Arizona, Inc.
  - Tribal Epidemiology Center (TEC)
- Regional Crash Fatality Rates
- Traffic Records
  - Types of data
  - Model Minimum Uniform Crash Criteria
- TEC training, technical assistance & projects related to traffic records



# Inter Tribal Council of Arizona, Inc. (ITCA)

[www.itcaonline.com](http://www.itcaonline.com)

[www.itcaonline.com/epi](http://www.itcaonline.com/epi)


# ITCA Functions



ITCA offices, Phoenix, AZ

Need for a strong voice through unity & collective action

- Non-profit tribal organization
- Established in 1975
- 21 tribal government membership
- Promotes tribal collaboration
- Public policy development
- Technical assistance & training for planning & program development
- Resource identification
- Analyze & disseminate information for community self-development



# Tribal Epidemiology Centers (TEC)

<https://tribalepicenters.org>

# Vision for Motor Vehicle Crash Injury Prevention

*Elimination of all unintentional MVC injuries and fatalities among American Indians, on and off Tribal lands, by addressing environmental, behavioral and political factors that influence these events.*

# US Dept. of Health & Human Services (DHHS)



<https://www.hhs.gov/about/agencies/hhs-agencies-and-offices/index.html>



# History

- In 1996, 4 TECs were established by Congress through the enactment of the Indian Health Care Improvement Act
  - ITCA TEC was 1 of the 4 original Centers
- TECs have a common mission & purpose
  - 12 TECs align with IHS regions
  - Conduct different activities
    - Discuss data request for technical assistance with TEC staff



# TEC Service Area Map

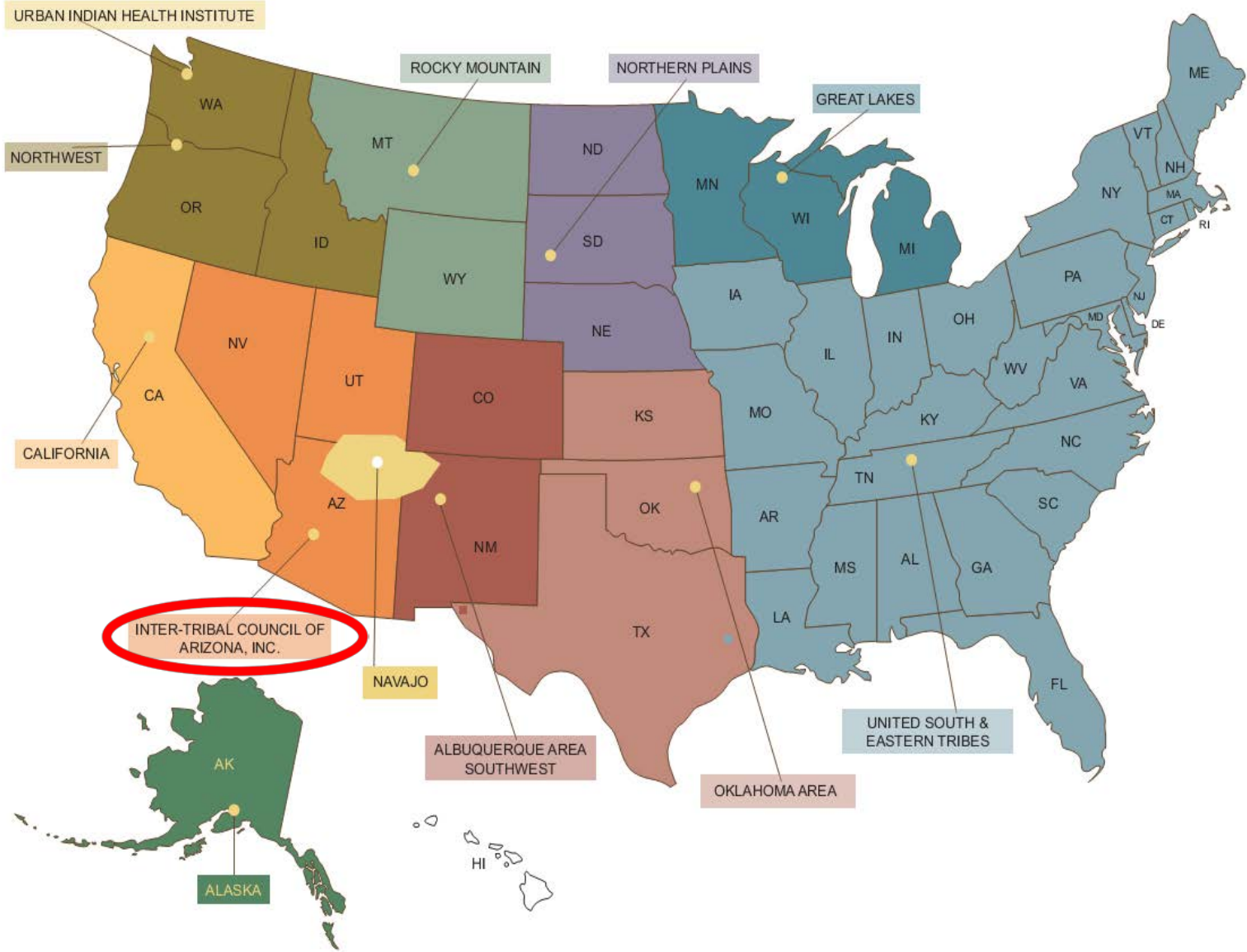


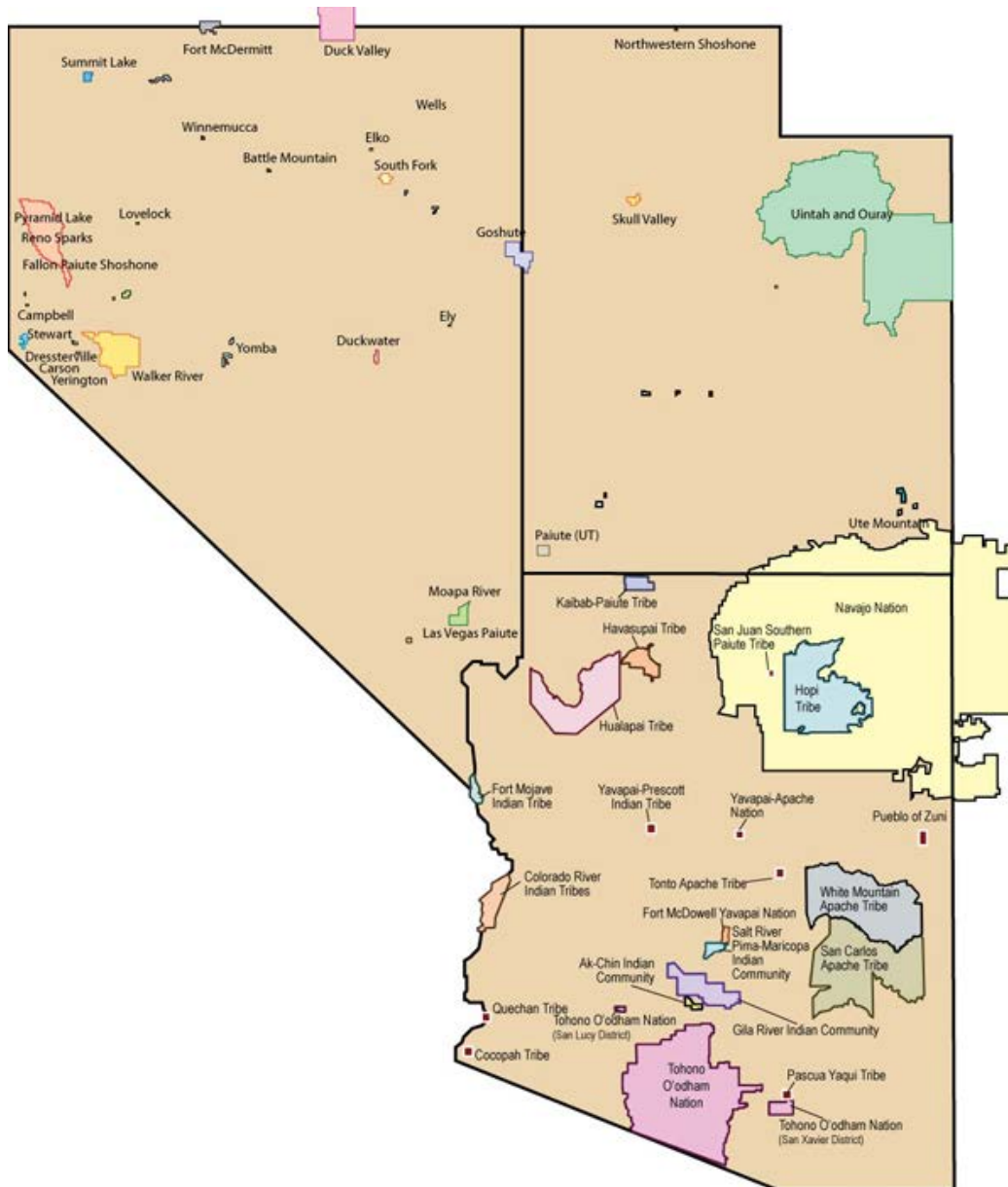
Photo credit: Indian Health Service. National Tribal Epidemiology Center Service Areas. 2013.



# TEC Core Functions

- **Assist** tribes with data collection, analysis & distribution of information
- **Provide** tribes technical assistance & training
- **Monitor** progress towards meeting health objectives
- **Evaluate** delivery systems, data systems & health programs
- **Make recommendations** to identify service targets & improve health care delivery systems

# ITCA TEC Service Area



- Tribes within the 2 IHS Regions
  - Phoenix
  - Tucson

Navajo TEC serves the IHS Navajo Region



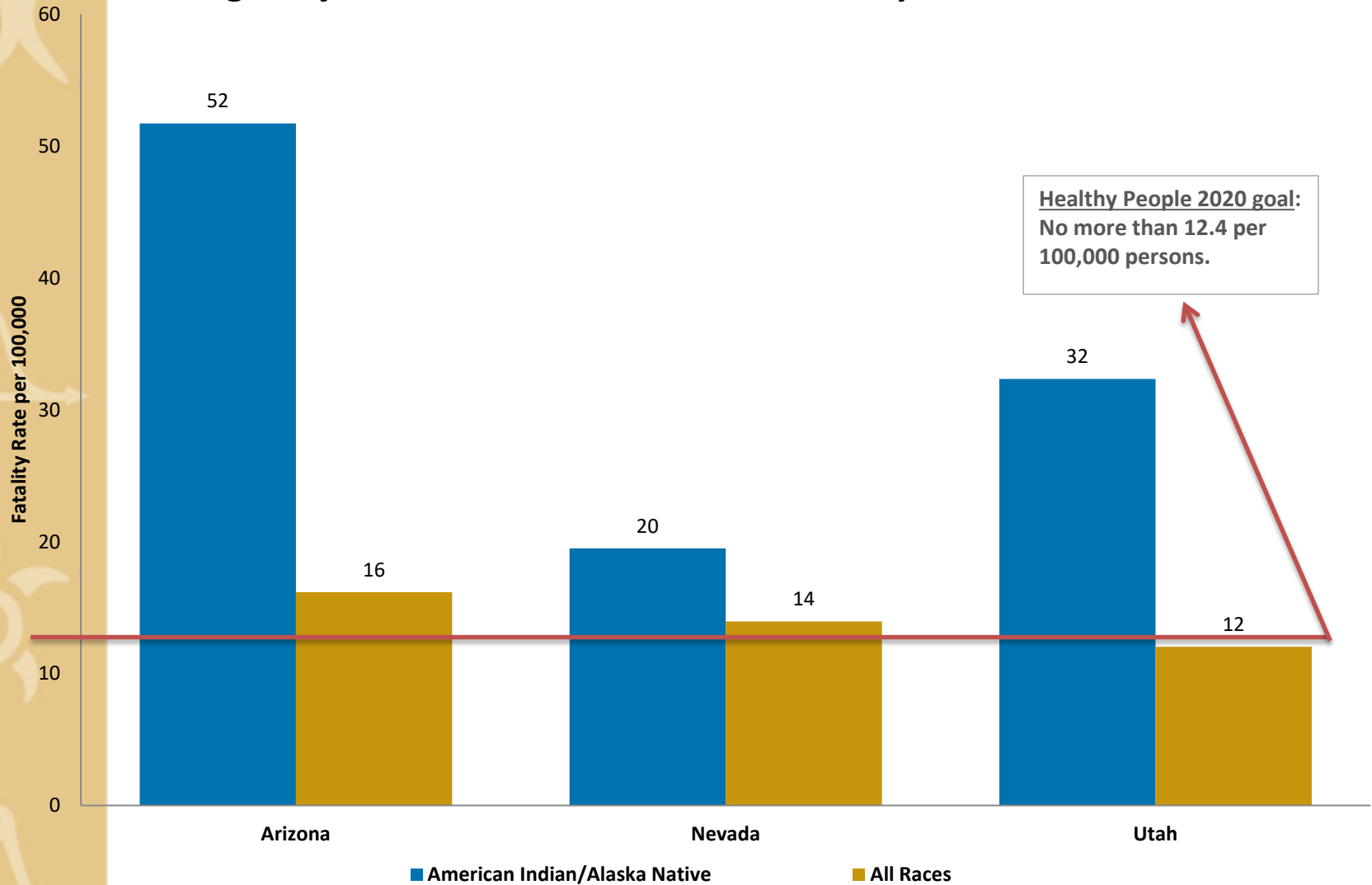
# TECs Access to DHHS Data

- In 2010, Congress enacted the Patient Protection & Affordable Care Act, which permanently reauthorized the Indian Health Care Improvement Act
  - A provision designated TECs as “public health authorities”
  - Authorized TECs access to data held by the US DHHS

# Regional Crash Fatality Rates



## Age-Adjusted Motor Vehicle Traffic Fatality Rate, 1999-2015



Source: WISQARS, National Center for Injury Prevention and Control:  
<https://www.cdc.gov/injury/wisqars/fatal.html>



# Traffic Records



# US Dept. of Transportation

Secretary of Transportation

Federal Aviation Administration

St. Lawrence Seaway Development Corporation

**Federal Highway Administration  
(FHWA)**

Maritime Administration

Federal Railroad Administration

Research & Innovative Technology Administration

**National Highway Traffic Safety Administration  
(NHTSA)**

Pipeline & Hazardous Materials Safety Administration

Federal Transit Administration  
(FTA)

Federal Motor Carrier Safety Administration

















# Traffic Records Management



**NHTSA** recommends traffic records management & administers grants to improve data improvement

- Crash data
- Injury data
- Emergency medical services (EMS) data
- Roadway data
- Traffic counts
- Vehicle licensing
- Driver licensing

# Traffic Records Management

Traffic Records	Tribal Source	Local Source	State Source	Federal Source
Crash				
Injury				
EMS				
Roadway				
Traffic counts				
Vehicle licensing				
Driver licensing				

# Model Minimum Uniform Crash Criteria (MMUCC)

**NHTSA** guidance for governments to improve highway safety

- Standardized data set for:
  - Crash
  - Person
  - Vehicle
  - Roadway
- Recommends 110 data elements:
  - 77 collected on scene using Crash Report
  - 10 derived from collected data
  - 23 obtained from linkage (driver or vehicle license, injury, roadway data)

# MMUCC Crash Data Elements

- Case identifier
- Crash date & time
- Crash county
- Crash city/place
- Crash location
- First harmful event
- Location of first harmful event - roadway
- Manner of crash
- Source of information
- Weather conditions
- Light conditions
- Roadway surface conditions
- Contributing circumstances - road
- Relation to junction
- Type of intersection
- School bus related
- Work zone related

<http://www.mmucc.us>



TEC

Traffic Record Related  
Technical Assistance



# Data Related Trainings

- Arizona Crash Data Reporting
- Epi Info Database





# Data Related Technical Assistance

- Data collection & analyses
- Tribal-specific surveillance report
  - Crash data analysis
  - Trauma-emergency room data analysis
  - Injury-hospitalization data analysis
  - EMS data analysis
- Crash maps
- Project activity evaluation
- Joint grant proposals



# TEC Traffic Record Related Projects





# Tribal Motor Vehicle Crash Injury Prevention Project

## Examples of products:

- EMS monthly surveillance reports
- State crash analysis report
- Tribal specific crash analysis report
- Crash data management system
- Crash maps
- Work plan development

# Data Benefits for Tribes

- Improve crash or EMS data collection
- Develop data driven decision making
- Plan & implement prevention strategies
- Evaluate projects
- Apply for safety grants
- Examine data to identify existing & emerging crash issues that threaten the health & safety of Tribal members & traveling public
- Generate greater awareness about impacts of crashes

# Examples: Tribal EMS Data

## Crash Indicators from EMS Data

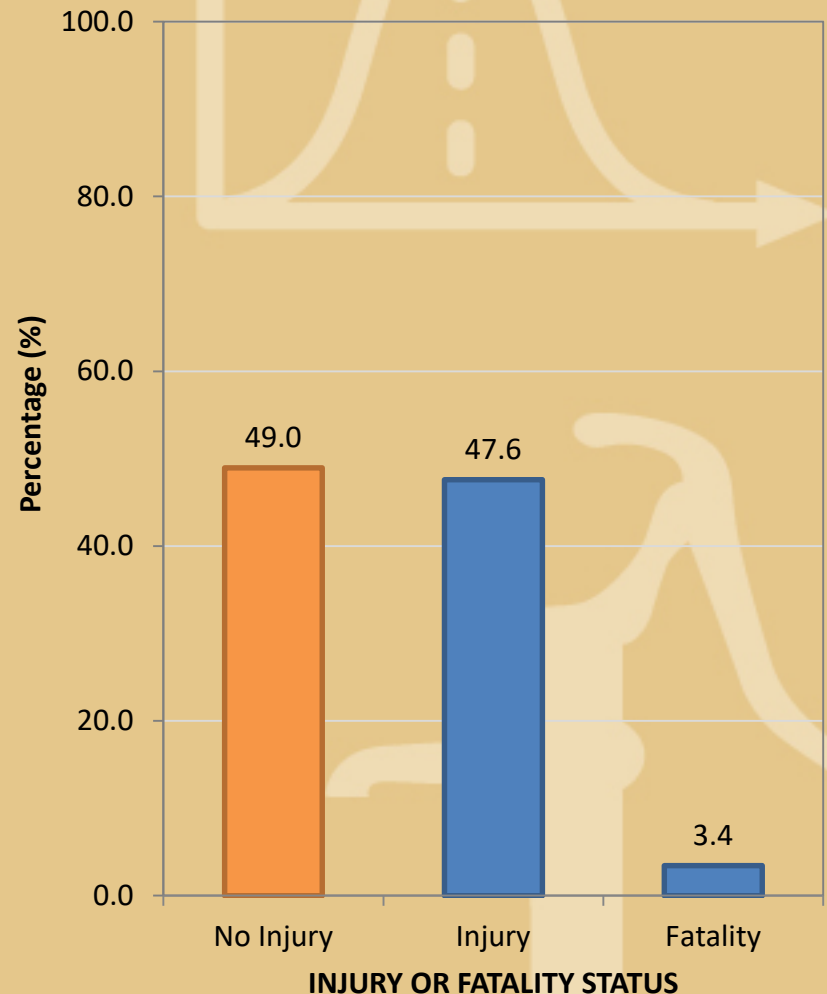
EMS response time	Transportation to facility by ambulance
Cost	Transportation to facility by helicopter
Location of crash	Number of vehicles involved
Type of collision	Month of crash
Gender	Time of day of crash
Age	<b>Injury or facility status</b>

# Example: EMS Injury Data

## Injury Status

**Definition:** Any type of injury sustained by or fatality of person involved in the crash.

Injury Status	Number	Percentage
No injury	71	<b>49.0</b>
Injury	69	<b>47.6</b>
Fatality	5	<b>3.4</b>
Total	146	



# Example: Epi Info Application

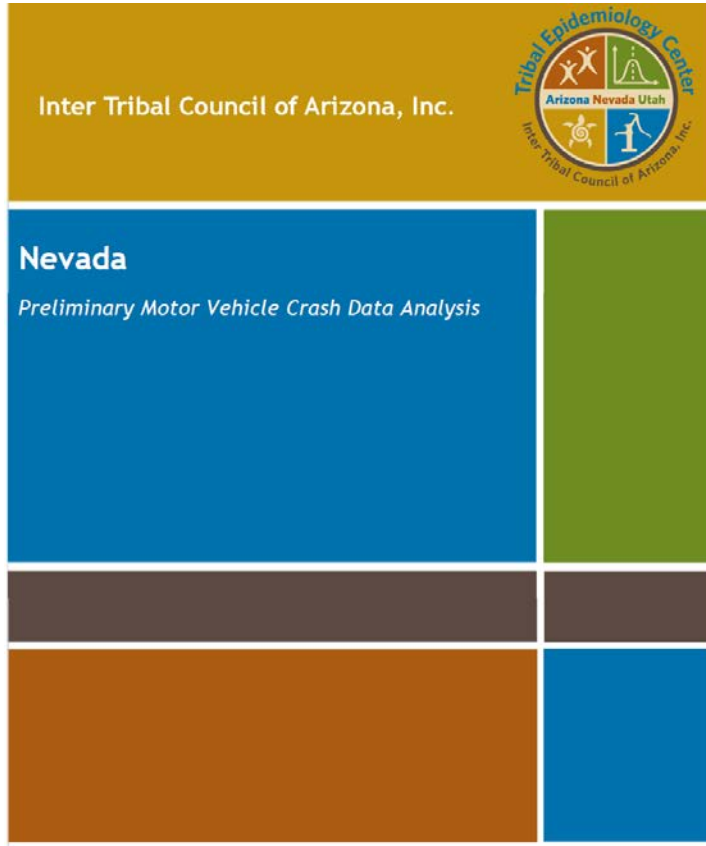
- Free, user friendly, flexible tools
  - Data management
  - Analysis
  - Visualization
- Features
  - Form creation & entry
  - Statistical analysis
  - Mapping
- Compatible with Windows

The screenshot displays the 'Form Designer' interface for the 'Lyme Disease Case Report' form. The form is titled 'Lyme Disease Case Report' and is associated with the 'DEPARTMENT OF HEALTH & HUMAN SERVICES Centers for Disease Control and Prevention'. The form includes the following sections:

- Demographic Information:** Fields for Patient's Name, First Name, Phone Number, Address, and City. A dropdown menu for State (AL - Alabama) and a text field for County and Zip are also present. Radio buttons for Age and Sex (1 - Male) are included. Dropdown menus for Ethnicity (1 - Hispanic/Latino) and Race (1 - American Indian/Alaska Native) are also present.
- Symptoms and Signs of Current Episode:** This section contains several sub-sections with dropdown menus for 'Yes' or 'No' responses:
  - Dermatologic:** Erythema migrans (physician diagnosed EM at least 5 cm in diameter) - 1 - Yes
  - Rheumatologic:** Arthritis characterized by brief attacks of joint swelling - 1 - Yes
  - Neurologic:** Bell's palsy or other cranial neuritis - 1 - Yes; Radiculoneuropathy - 1 - Yes; Lymphocytic meningitis - 1 - Yes; Encephalitis/Encephalomyelitis - 1 - Yes; CSF tested for antibodies to B. burgdorferi - 1 - Yes; Antibody to B. burgdorferi higher in CSF than serum - 1 - Yes
  - Cardiologic:** 2nd or 3rd degree atrioventricular block - 1 - Yes
- Other clinical:** A text field for additional clinical information.
- Date fields:** Date of onset of first symptoms (MM-DD-YYYY), Date of report to health agency (MM-DD-YYYY), and Date of diagnosis (MM-DD-YYYY).

# Example: State Crash Data Analysis Report, 2007-2014

1,392 crashes on Tribal land  
397,786 crashes off Tribal land

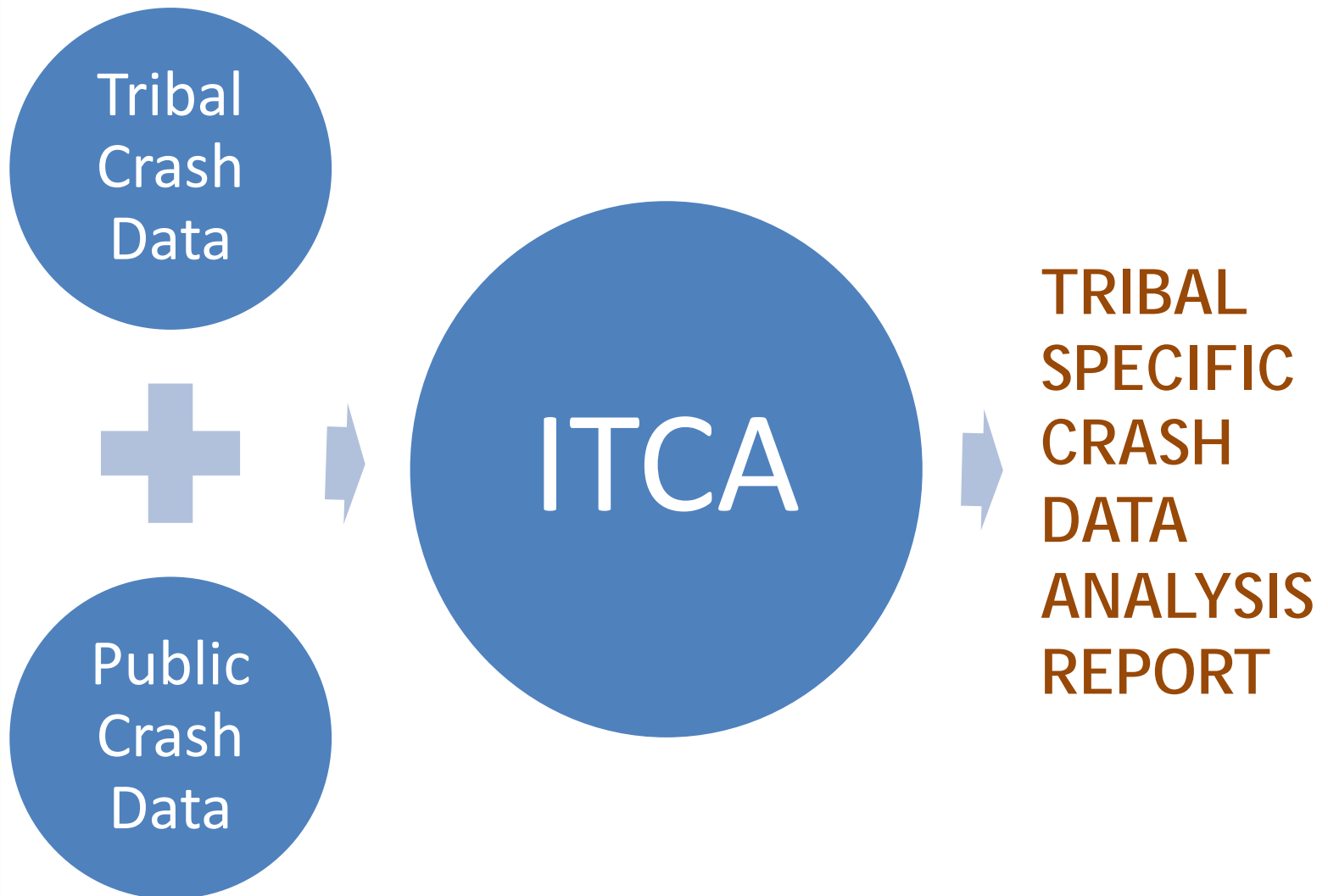


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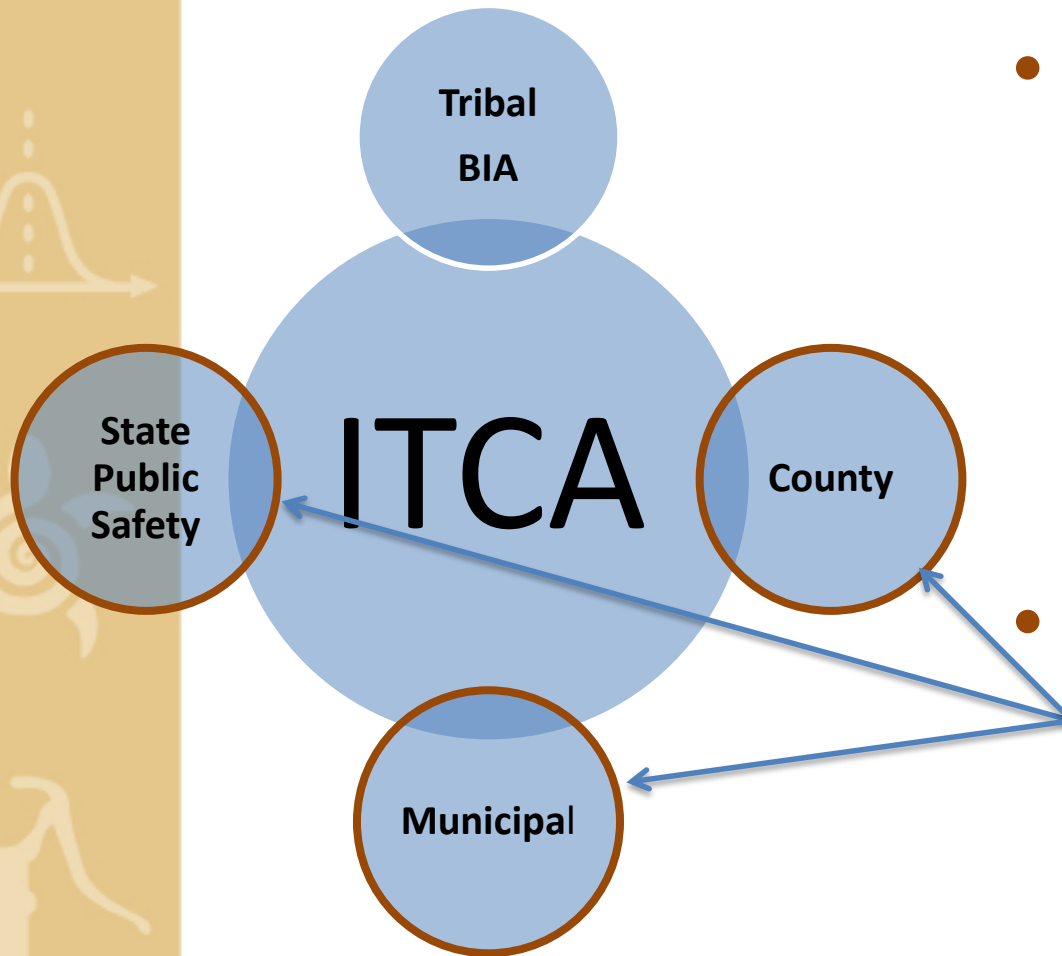
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[http://itcaonline.com/?page\\_id=5812](http://itcaonline.com/?page_id=5812)

# ITCA Assistance: Crash Data Management System



# AZ Public, De-identified Crash Data



- AZ Revised Statutes require non-tribal law enforcement to share crash data with state DOT
- ITCA has access to de-identified, public crash data through the DOT



# Standardized Crash Data Collection in AZ

- Recommend using state crash report
- Standardized data
- Minimum crash data collection
- Meets Federal traffic records requirements
- Data use options
- Fillable PDF AZ form available

ADOT USE ONLY

ARIZONA CRASH REPORT

REPORT ID: YEAR MONTH DAY HOUR NOC NO. OFFICER ID NO. Agency Report Number

1. POLICE ONLY - FORWARD COPY TO ADOT TRAFFIC RECORDS SECTION, 6045 201 S. 17TH AVE., PHOENIX, ARIZONA 85007-3223

2. COMPLETE THE TRUCK/BUS SUPPLEMENT IF ANY (circle) AND ANY (diamond) ARE CHECKED

3. LOCATION: I-10 Highway/Road/Street, City, County

4. Is this a Secondary Collision: Yes  No  Roadway Clearance Time: Incident Clearance Time:

Safety Devices (SD): 1- Not Applicable, 2- None Used, 3- Lap Belt, 4- Shoulder and Lap Belt, 5- Child Restraint System

Injury Severity (IS): 1- No Injury, 2- Possible Injury, 3- Non-incapacitating Injury, 4- Incapacitating Injury, 5- Fatal Injury, 99- Unknown/Not Reported

Seating Position: 19- Front Seat - Other (CHD in Lap), 20- 2nd Additional Passenger in Vehicle by Row, 81- In enclosed or cargo area, 82- In unenclosed passenger area, 85- Riding on Vehicle Exterior, 98- Unknown

TRAFFIC UNIT NO. 1: State, Class, End, DL #, No Valid License/Perm, Sex, Driver, Pedestrian, Passenger, Name (First, Middle, Last), Date of Birth, Restrictions, Address, City, State, Zip Code, Telephone Number, Color, Vehicle Year, Make, Model, Body Style, Plate Number, State, Plate M/YY, VIN, Trailer (Other Unit) Plate No., State, Year, Safety Devices, Injury Severity, Posted Speed Limit, O/E Est. Speed, Transported Tolly, Removed to (Address/Storage Location Identifier), Disabled, Not Disabled, Removed by, Orders of

TRAFFIC UNIT NO. 2: Insurance Company, Telephone Number, Policy Number, Exp. Date

TRAFFIC UNIT NO. 3: State, Class, End, DL #, No Valid License/Perm, Sex, Driver, Pedestrian, Passenger, Name (First, Middle, Last), Date of Birth, Restrictions, Address, City, State, Zip Code, Telephone Number, Color, Vehicle Year, Make, Model, Body Style, Plate Number, State, Plate M/YY, VIN, Trailer (Other Unit) Plate No., State, Year, Safety Devices, Injury Severity, Posted Speed Limit, O/E Est. Speed, Transported Tolly, Removed to (Address/Storage Location Identifier), Disabled, Not Disabled, Removed by, Orders of

TRAFFIC UNIT NO. 4: Insurance Company, Telephone Number, Policy Number, Exp. Date

WITNESSES: Name, Address, City, State, Zip Code, Telephone Number, D.O.B / Age

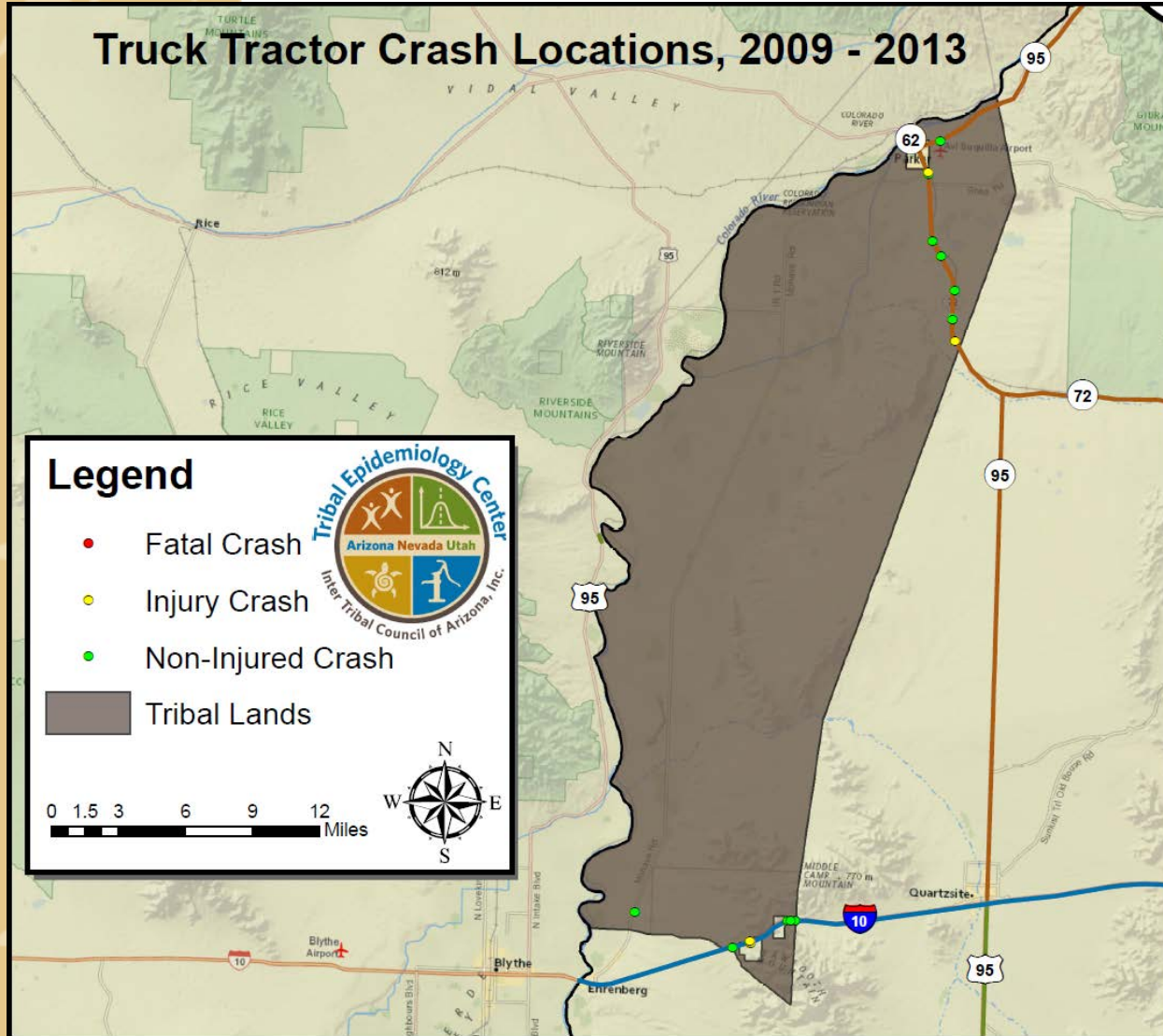
7. Properly Damaged (Other than Vehicles) (Block 33, Event 29-49) Owner Code: 1- Private, 2- Public Utility, 3- Federal Government, 4- State of Arizona, 5- County in Arizona, 6- City in Arizona, 7- Tribal Nation, 8- Unknown, 99- Unknown, Inventory Tag No.

8. Photos Taken: Yes  No  Photographer's Name, ID Number and Agency Number, Invest. At Scene: Yes  No  Date Invest., Title Invest., FINE/325 Incident No.

9. Officer's Name/ Badge #, Supervisor's Signature, Agency Name, Date Completed

01-2704-A1 10/2014-B

# Example: Crash Map by Injury



Data Sources:

- Tribal crash data
  - Public crash data
- OR**
- Merge of Tribal & public crash data



# Tribal Data Collection

- Surveys
  - Observational seatbelt surveys
  - Community safety prevention surveys
  - Distracted driving surveys
- Crash reports
- Traffic citation history
- EMS run sheets
- Focus group responses
- Planning Reports
  - Road Safety Assessment
  - Traffic Records Assessment
  - Safe Routes to School Travel Plan
  - Community Health Profile
  - Crash Injury Report

**Alert** staff or consultant preparing the Tribal Safety Plan of Tribal data sources

# CONTACT INFORMATION

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