

Tribally-driven usage of Road Safety Audit (RSA) to prevent motor vehicle crashes

American Public Health Association Conference
November 19, 2014

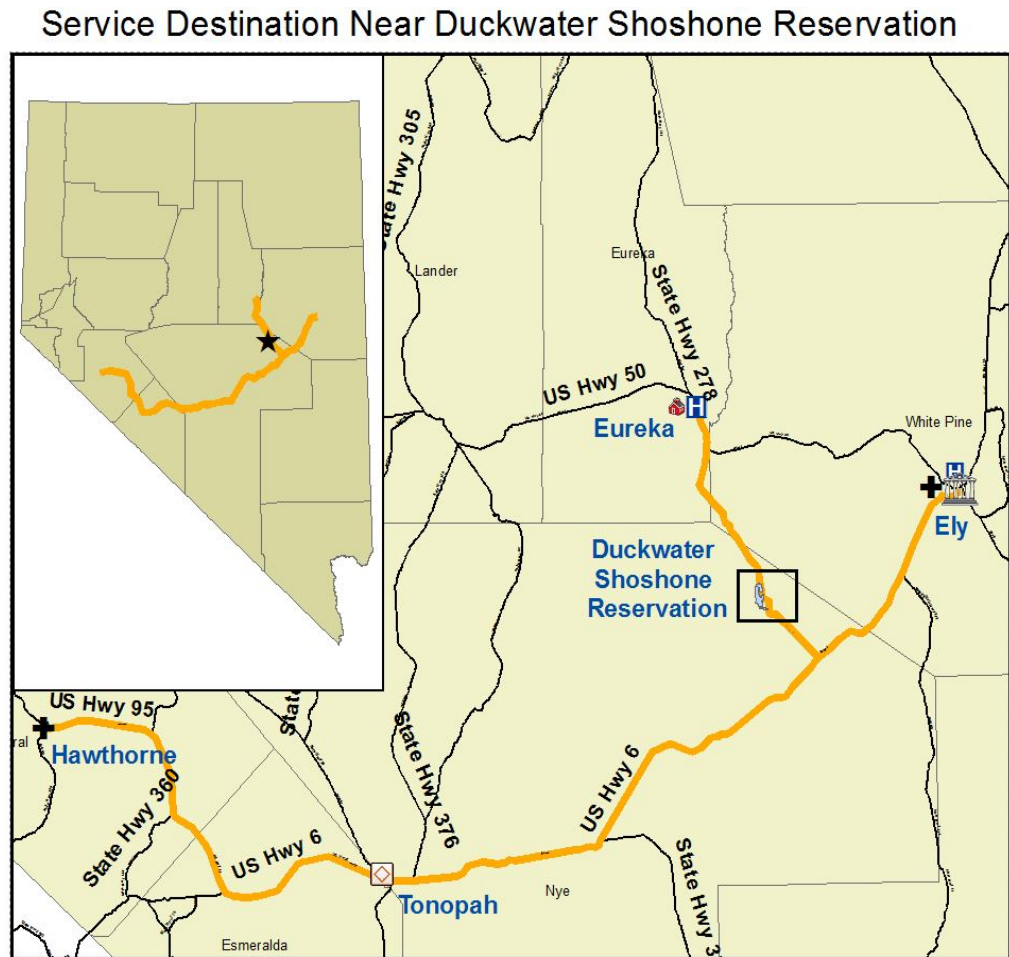
Presenters: Kim Townsend and Janey Bryan

Learning Objectives

- ▶ Discover how a Road Safety Audit (RSA) is conducted and the role of injury prevention and public health professionals in the process
- ▶ Understand how a RSA applies evidence based practices to reduce motor vehicle crashes
- ▶ Learn how to utilize a RSA to identify hazards and target environmental interventions

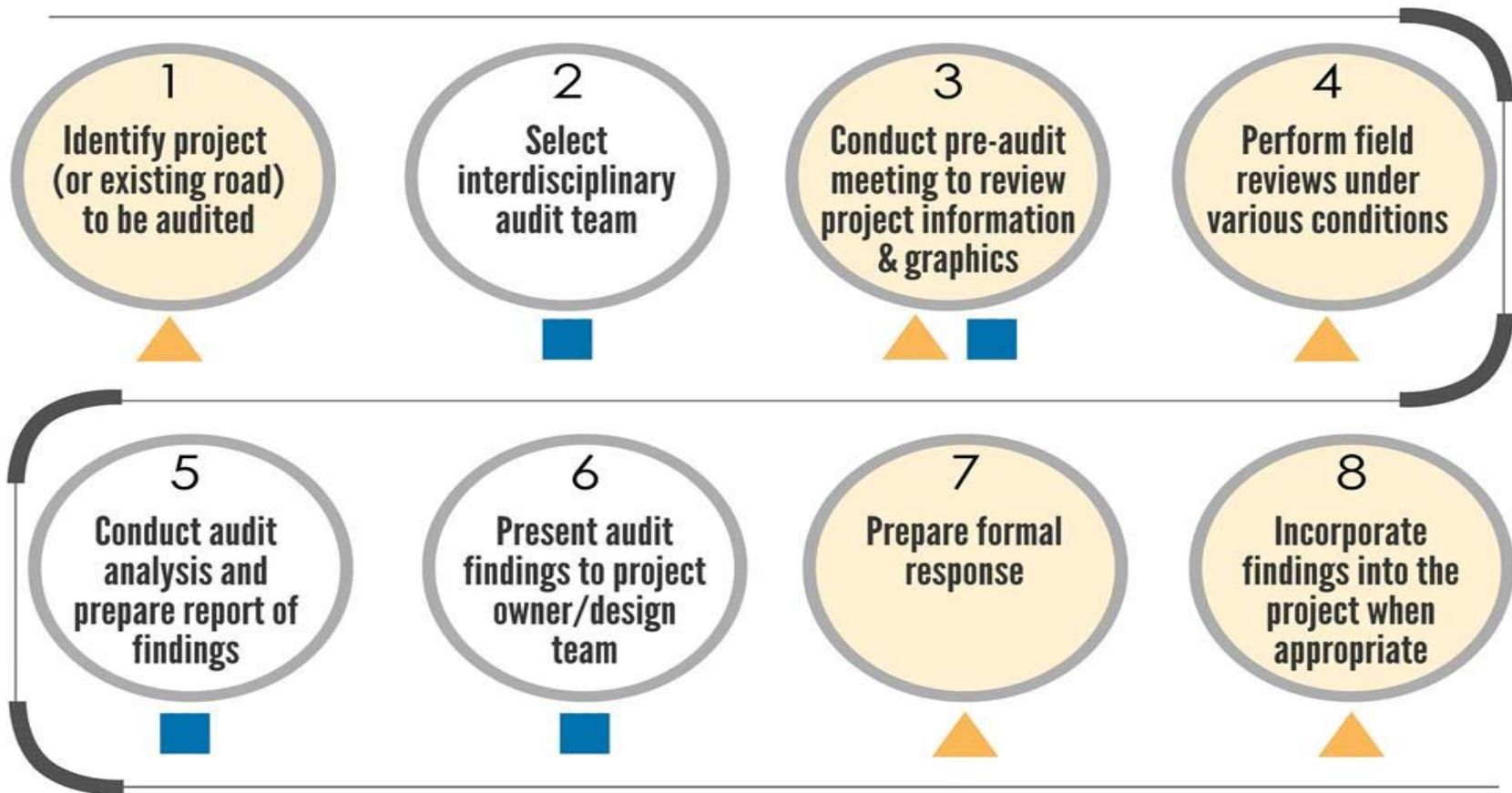
Background

- ▶ Duckwater Shoshone Reservation (3,854 acres) is located in central Nevada
- ▶ Population on the reservation is n=151
- ▶ Essential services are 1-2 hours away
- ▶ Tribal injury prevention coalition initiated RSA with Nevada Department of Transportation (NDOT)



Duckwater RSA Process

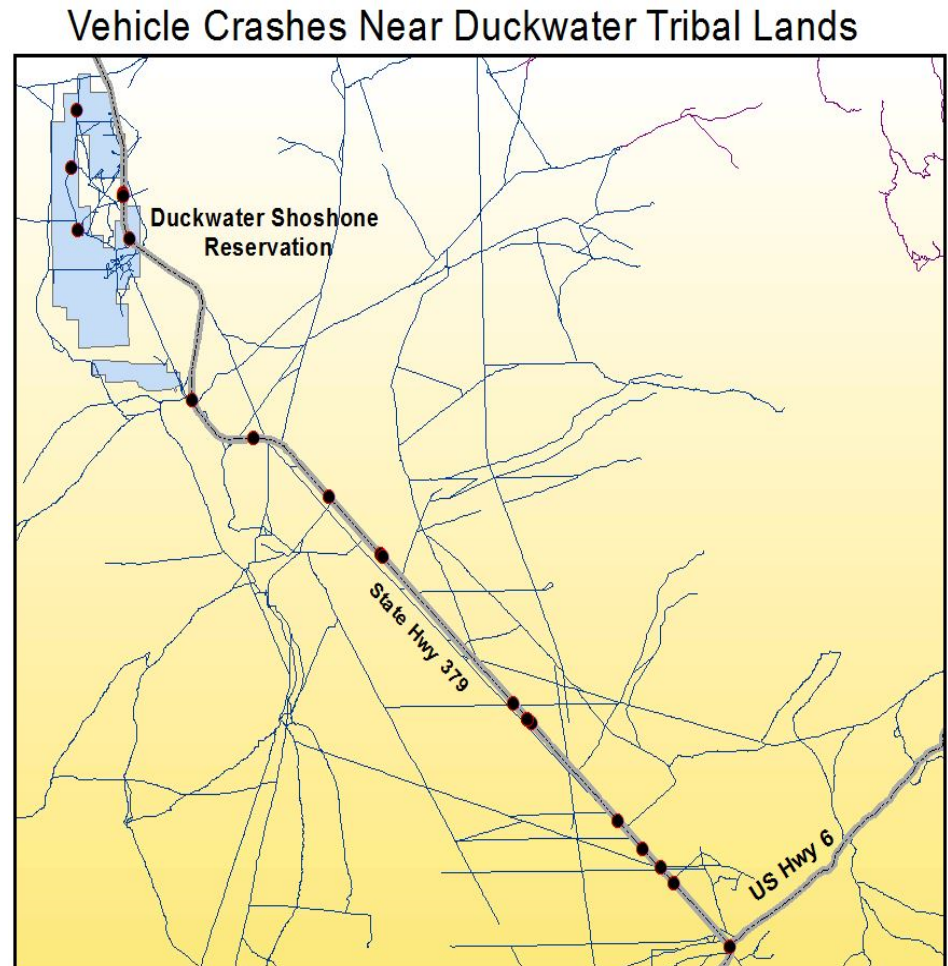
8-Step Road Safety Audit



Step 1: Identify Roads

Compiled 12 years of crash data to identify crash locations prior to RSA field review:

- ▶ NDOT crash data from law enforcement agencies
- ▶ Duckwater police crash reports



Step 1: Identify Roads

- ▶ Total crashes, 2002-2013: n=20
- ▶ Severity:
 - ▶ Fatal crashes: 5
 - ▶ Injury crashes: 3
 - ▶ Property damage crashes: 12
- ▶ Crash Factors:
 - ▶ Crashes in clear weather: 14
 - ▶ Crashes in low light conditions: 11
 - ▶ Crashes where vehicle left the roadway: 10
 - ▶ Crashes involving animals: 7

Step 2: Identify RSA Team

NDOT contracted Kimley Horn and Associates, Inc. to conduct the RSA with team:



- ▶ Duckwater Police
- ▶ Duckwater Planning
- ▶ Inter Tribal Council of Arizona, Inc.
 - ▶ Transportation/Injury Prevention
 - ▶ Engineering Consultant
- ▶ NDOT District Engineering
- ▶ Nye County Road Maintenance

Step 3: Start-up Meeting

- ▶ Injury prevention coalition relayed to RSA team the safety concerns on existing routes owned by Duckwater, Bureau of Indian Affairs (BIA) and State 379
 - ▶ 17 miles unimproved section of route 379
 - ▶ Wild and domestic animals in roadway
 - ▶ Flooding/road erosion



Step 4: Perform Field Review – Duckwater/BIA Routes

Tribal and BIA-owned roads within Duckwater. Issues:

- ▶ Pavement markers
- ▶ Signage
- ▶ Culverts/drainage
- ▶ Street lighting
- ▶ Pedestrian crossing
- ▶ Cattle guards



Step 4: Perform Field Review – State Route 379

NDOT-owned road provides access to services. Two counties maintain route 379.

Issues:

- ▶ Road condition
 - ▶ Large, sharp aggregate (gravel)
 - ▶ Dust control
 - ▶ Deteriorating pavement edge
- ▶ Drainage/culverts
- ▶ Pavement markers
- ▶ Signage
- ▶ Fencing



Step 5: Prepare Findings

RSA Team

- ▶ After the field reviews,
discussed the findings
 - ▶ Findings log
 - ▶ Pictures
- ▶ Suggested engineering
and behavioral
evidence-based
strategies



Step 6: Present Findings

Kimley Horn and Associates,
Inc.

- ▶ Summarized the findings for the injury prevention coalition the day after the RSA
- ▶ Drafted RSA report for tribal review
- ▶ Provided tribe RSA report for injury prevention and transportation safety planning



Step 7: Prepare Formal Response

Jurisdictions of road ownership are required to formally respond to the RSA

- ▶ Duckwater coalition reviewed the RSA report and recommendations
- ▶ Duckwater Tribal Council approved the letter accepting the RSA findings

Step 8: Incorporate Findings into Projects

Duckwater police: injury prevention coalition

- ▶ Crash surveillance
- ▶ Occupant protection promotion
- ▶ Assessments
 - ▶ Observational seatbelt surveys
 - ▶ Distracted driving assessment
- ▶ Speed enforcement
- ▶ Traffic code review

Duckwater planning: transportation

- ▶ Applied for safety project funds to address the pedestrian crossing near the school and clinic
- ▶ Updating the Long Range Transportation Plan safety chapter
- ▶ Addressing safety funding match for Tribal and BIA road project improvements

Acknowledgements

Motor Vehicle Injury Prevention Coalition

- ▶ **Funding:** Office of Minority Health, Department of Health and Human Services
- ▶ **Technical Assistance:** Inter Tribal Council of Arizona, Inc., Tribal Epidemiology Center

RSA

- ▶ **Funding:** NDOT, Safety Engineering
- ▶ **Technical Assistance:** Kimley Horn and Associates, Inc.