Rural Road Safety through Traffic Incident Management
9/11 Response Deficiencies

- Inability to communicate
- Lack of coordination between agencies
- No common terminology
- No unified command, goals or objectives
- No central command
- No specific recovery plan
- No plan for involving city, county, state and federal resources/responses
All TIM Training is organized according to well-established and understood TIM phases

- Detection
- Verification
- Size-up and Response
- Motorist Information
- Clearance
- Recovery
- Site management
- Traffic management
- Termination
- After Action Review
Volunteer firefighters and rescue squad personnel have provided fire suppression and emergency response services to their local communities for over a century...

Many rural areas could not afford the cost of maintaining their current level of emergency response services without volunteer firefighters and volunteer rescue squad personnel.
Nebraska has 478 Fire Departments with 578 Stations and 13,780 members
10,000-mile State Highway System
77,000 Square Miles
93 Counties
Most highways in every state are served by rural fire and EMS departments....

....but most Traffic Incident Management training is for urban responders.
About half of the drivers in a recent study said they just didn’t have as much to worry about on rural highways — which includes traffic, congestion and people.
Rural areas are about 20% of the population but account for 60% of highway fatalities.
.... six out of 10 highway deaths across the U.S. occur on roads that FHWA considers rural.
According to the FHWA...

...nearly 80% of drivers say they feel relaxed and safe on two-lane rural highways compared to 69 percent who say the same thing about multi-lane urban ones.
What are primary core competencies?

Every incident responder active in that incident management phase should know how to implement the core competencies.

High Visibility and situational awareness are the best ways to stay alive.

Using emergency responder vehicles to create a safe work area at the incident scene and wearing appropriate high-visibility protective apparel are primary core competencies.
Reducing Duration Reduces Alternate Routing Impacts on Rural Communities
Reduced Duration Reduces Secondary Crash Risk

About 20% of highway fatalities are the result of secondary crashes.

Every minute a crash remains on the roadway is additional risk!
Emergency Vehicle Visibility and Conspicuity

- Both visibility and recognition are important facets of vehicle conspicuity
- Contrasting colors can assist motorists with locating a hazard amid the visual clutter of the roadway
- Fluorescent colors offer daytime visibility
- It is possible to over-do the use of retro-reflective materials
National Traffic Incident Management (TIM) Responder Training
Lack of established pre-incident plans and agreements regarding traffic control incident management

Insufficient training, staffing, equipment, and standard operating procedures to adequately establish a traffic incident management area
In order to reduce response time for traffic incidents, highway agencies, appropriate public safety agencies and private sector responders should mutually plan for occurrences of traffic incidents along highways.
NIMS ICS 100, 200, and 700 training

- Reduce confusion
- Improve the safety of responders
- Make operations at the scene more efficient
- Plain English
Proposed NFPA 1091 Rule

- Operate the vehicle in the correct manner
- Use of personal protective equipment, warning signals, temporary traffic control devices and vehicle lighting
- Initial size-up and command and communicate to responders and dispatchers with the location of the incident.

- Alert road users and establish a well-defined path to guide motorists
- Protect the incident responders and those involved in working at the incident scene.
- Preclude unnecessary use of the surrounding local road system
- More...
Operate Vehicles Safely!

The driver of an emergency unit is not relieved from the duty to drive with due regard for the safety of all persons and is not protected from the consequences of his or her reckless disregard for the safety of others.
Reduced Mortality

The Golden Hour

Response time has a well-documented relationship to likelihood of crash survival.

By reducing both notification and response times, Rural TIM improves patient outcomes and reduces mortality.

Mock Crash
Response begins with dispatch!

- Estimate the number of vehicles and injuries
- Estimate the magnitude of the accident
- Estimate the expected time duration of the incident
- Estimate the expected vehicle queue length
- Set up appropriate traffic control
- Assess whether there is evidence of criminal activity

The more accurate and detailed the information obtained, the faster the response and quicker the clearance.
Traffic Incident Management Area

- Advance Warning Area
- Transition Area
- Buffer Space
- Traffic Space
- Activity Area
- Work Area
- Termination Area

The advance warning area is the section of highway where road users are informed about the upcoming work zone or incident area.
Most simple fuel leaks can be addressed by responders certified at the Hazmat first responder level.

One of the biggest causes of unnecessary roadway closures or delays in clearing is incorrectly treating a vehicle fluid spill as if it were a hazardous materials incident.
The Advanced Warning component of your Traffic Management Area is a top priority.
Incident scenes can be crime scenes. Is it evidence or debris?
Accident Reconstruction Technology for Rural Areas Reduces Duration
Termination Checklist

- Let other responders know when you’re leaving
- Protect towers while they finish up
- Check with incident commanders when they leave
- Make sure all personnel are accounted for
- Let dispatch know that lanes are open
Intelligent Transportation Systems and Traffic Management Centers can help Rural TIM

- Road Weather Information
- Weather Responsive Traffic Management
- Motorist/Travel Information
- Traffic Incident Management Programs
- Alternate Routes
- Road Closures
- Materials

RURAL TRAFFIC INCIDENT MANAGEMENT RESPONDER TRAINING
Common Rural Problems: Intersections, Speeding, Curves
ITS can improve systems and safety in rural locations

- Rebuilding infrastructure is costly and may not be an option for a small jurisdiction.
- A dynamic curve warning system consisting of 12 chevron signs will cost about $30K versus $300-500K to rebuild a curve.

Source: Low Cost ITS Solutions for Rural Areas
Changes in the public’s expectations in their everyday lives are translating to changes in their expectations of government:

Technology is driving many of these changes!

- Real-time Information and 1201 Rule
- Weather Responsive Traffic Management
- 24X7 Information
- Greater service reliability is expected.
- Productivity and efficiency gains and Just in time shipping
Motorist Information
Real-Time System Management
1201 Rule

- the capability to monitor, in real-time, the traffic and travel conditions of the major highways in the US and to share data with State and local governments and with the traveling public:
  1. Lane blocking events
  2. Road weather
  3. Construction
  4. Travel Time
Thank you, ITS Texas!

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Traffic Incident Management Self-Assessment Tool Works for Rural Areas, too!

- Multi-Agency TIM Teams
- Formal TIM Programs (Agreements, AARs)
- Performance Measurement (Notification and Response Times, Duration, Secondary Crashes)
- Policies and Procedures for Incident Response and Clearance
- Responder and Motorist Safety
- Data Collection/Integration and Sharing (ITS)
- Real-time Traveler Information (1201 Rule)
Resources

- NCTCOG Introduction to Freeway Management
- SHRP-2
- Weather Responsive Traffic Management
- MUTCD
- Low Cost ITS Solutions for Rural Areas
- The Role of TMCs in Emergency Transportation Operations
- NFPA 1091
- Real-time Information: 1201 Rule
- Homeland Security Presidential Directives
- National Incident Management System