

Want Zero Deaths? Engage the System that Saves Lives: EMS

Montana Comprehensive Highway Safety Plan

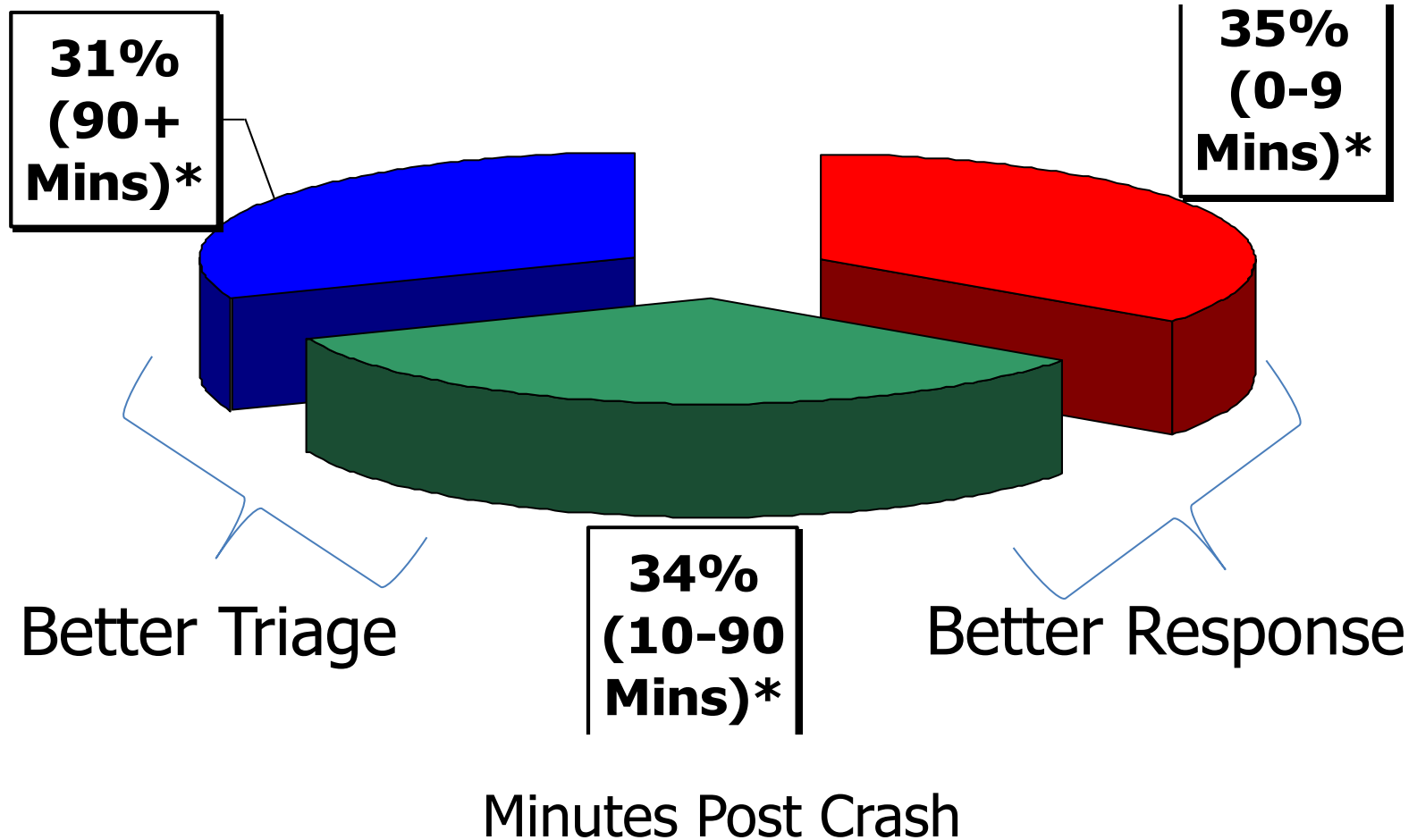
June 7, 2012

Jim DeTienne, Supervisor

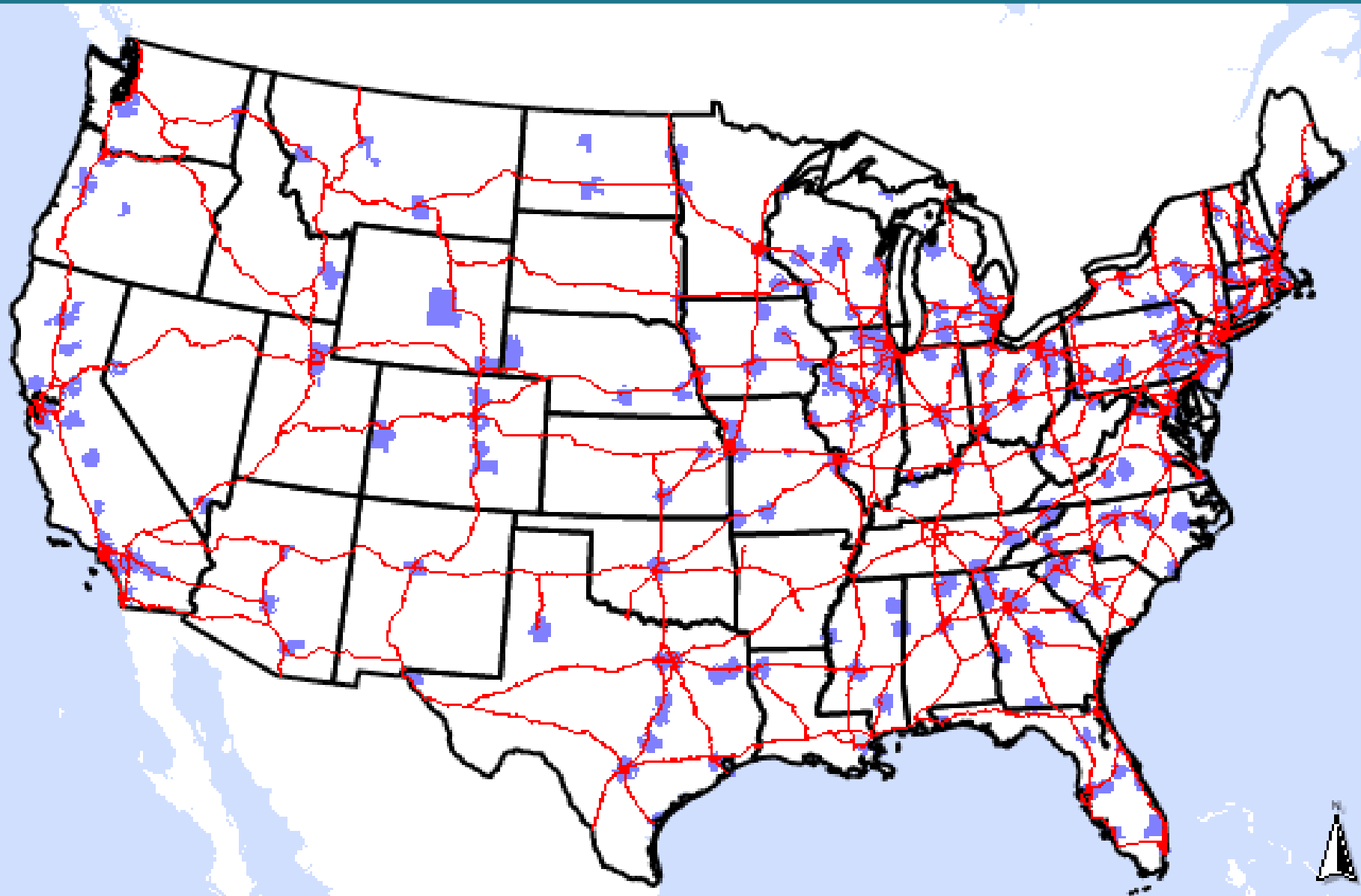
EMS & Trauma Systems Section, DPHHS



Fatalities by Time of Death After Crash



*Based on FARS 2005 Data, Slide
Courtesy of NHTSA OEMS



0 700mi



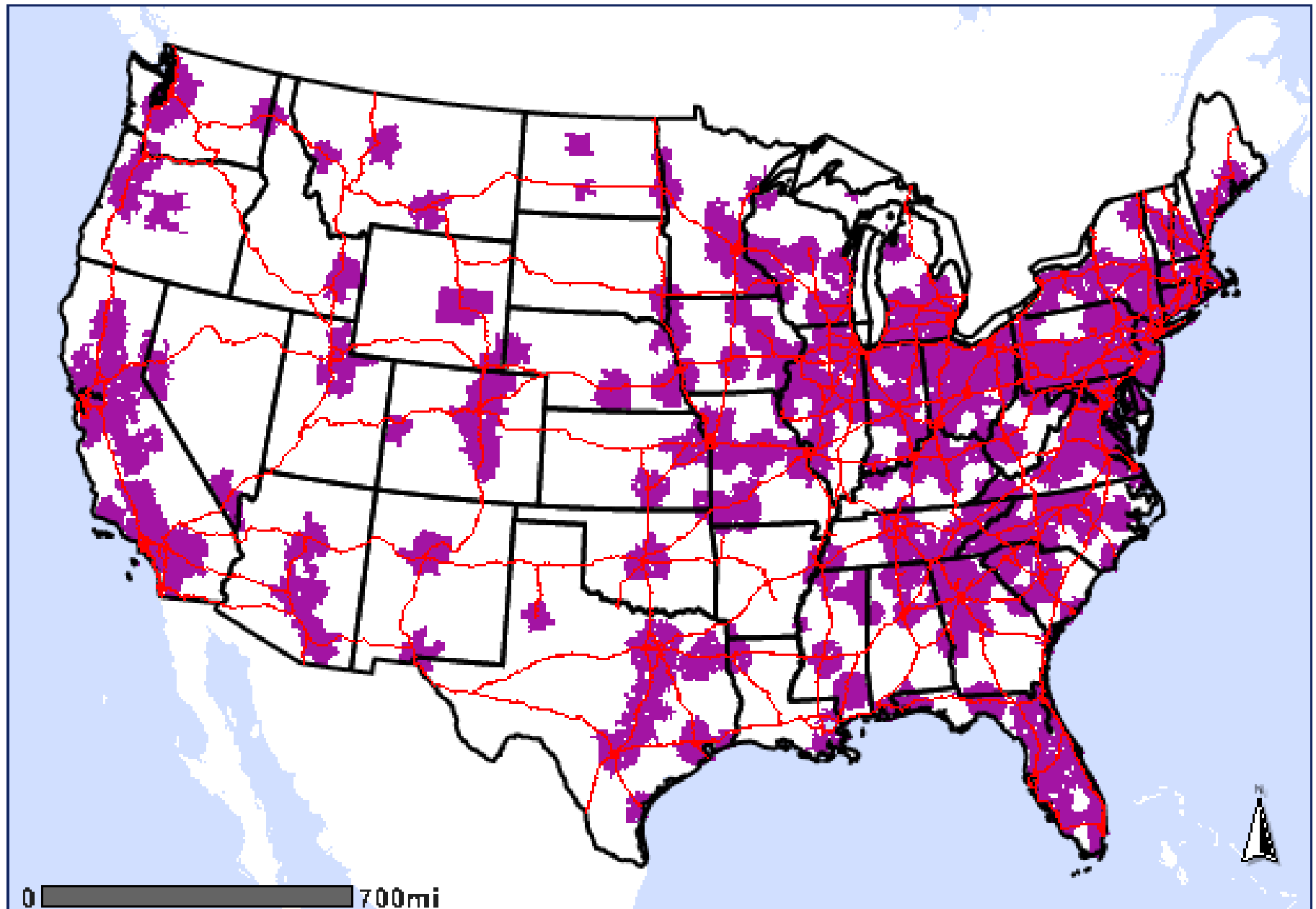
Level I/II Trauma Center Coverage

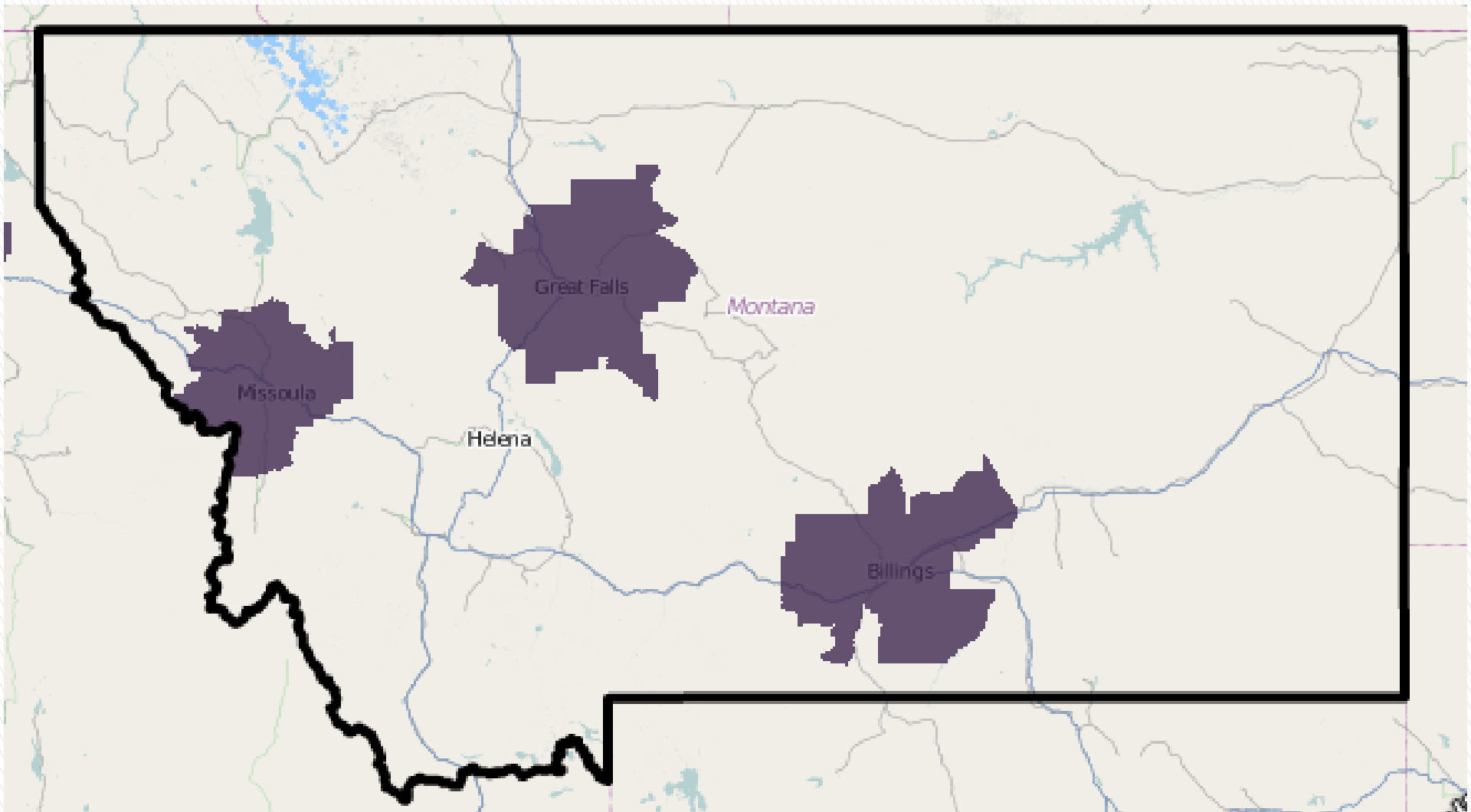
Existing System:

% Popn	% Land
83.13%	28.68%

Legend

- Helicopter
- Ambulance
- Either





Missoula

Great Falls

Montana

Helena

Billings



Montana Emergency Care



Emergency Medical Services

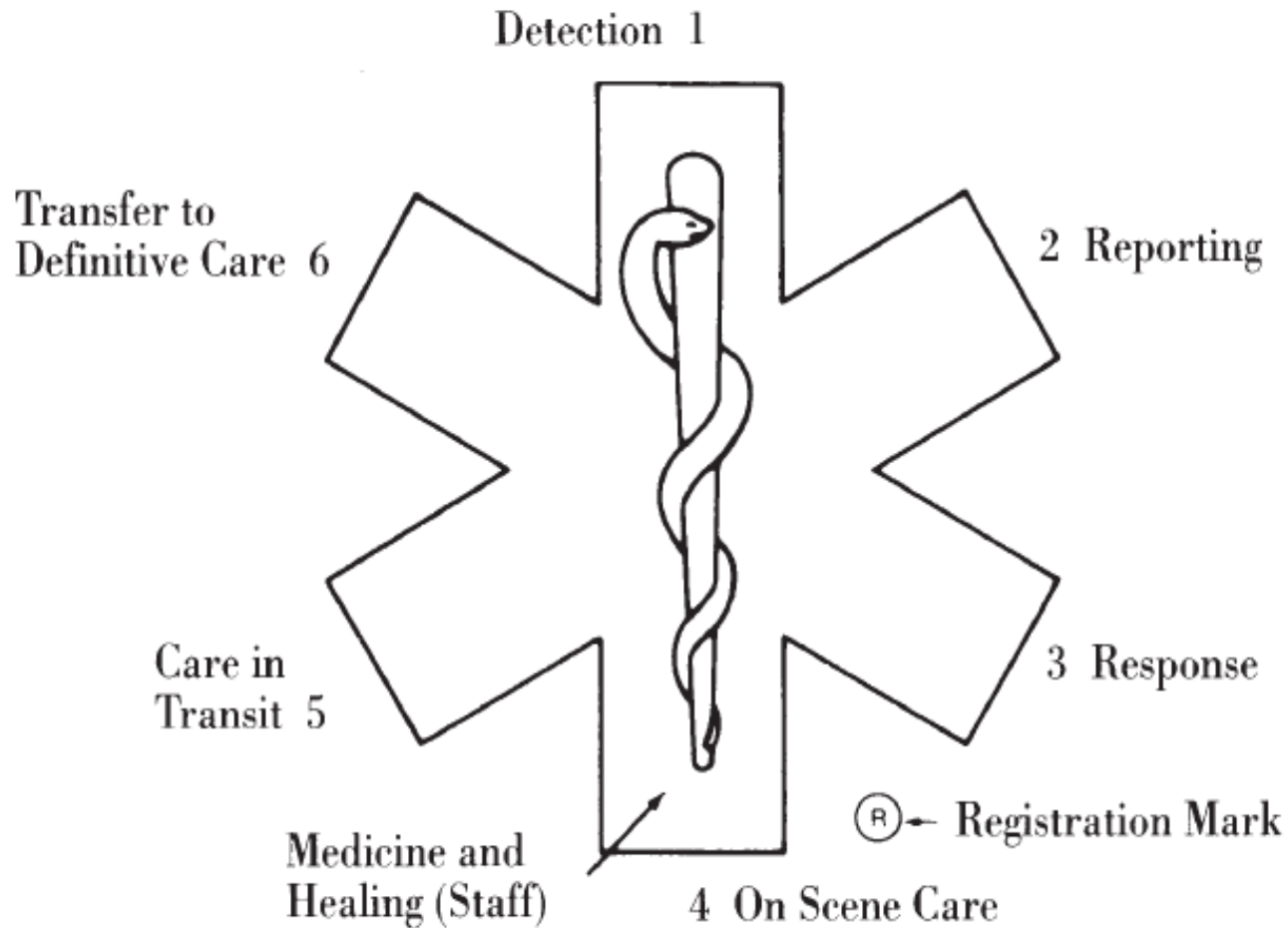
Trauma System

Injury Prevention

PO Box 202951, Helena MT 59620 office - (406) 444-3895 fax - (406) 444-1814



Organizing Ideas via the Star of Life



DETECTION SYSTEMS

- **Telematics Data Definitions and Transmission Standards**
- **Advanced Automatic Collision Notification coupled with Predictors for Probability of Severe Injury**
- **AACN Predictors for the Need for Vehicle Extrication**

CARS Mayday Module

EMS Response Screen

Crash at 8:29 PM, 5/8/10

Probability of Injury: 92%

[Add/Edit Passenger Details](#)

Passenger	Age	Gender	Safety Belt	Entrapment	Ejection	Prob. of Inj.
1	40	F	N	Y	N	92.0%

DeltaV: 30mph

PSAP Contact:

PAYETTE
1130 3RD AVE N
PAYETTE, ID 83861
(208) 642-6006

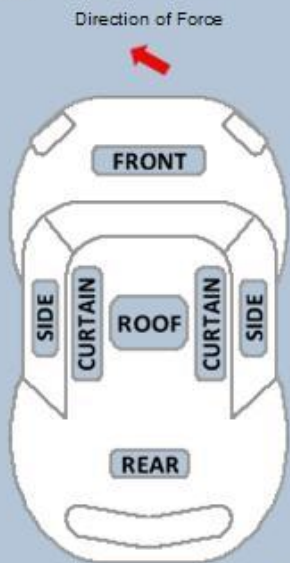
Incident Information:

Incident ID: 1438314045
Event Notification: Vehicle Accelerometer
Event Verified:
Rollover: No
Data Provider: OnStar
Provider Contact: 800-466-7827

Vehicle Information:

Color: White
Year: 2009
Manufacturer: General Motors
Make: Chevrolet (1)
Model: Cobalt Sedan

[<< Previous Report](#) [Next Report >>](#)



Incoming Report

H At (43.93, -116.75) 10:25 PM 5/8/10 Crash

At A35. Look out for an accident.

ID: ONSTAR-1438314045.2 Author: unknown
Status: **CURRENT** Auto-held (updated) Received: 10:25 PM, 5/8/10

Recommended action based on probability of injury calculation:

- Provide information to PSAP and suggest vehicle extrication, helicopter request and closest and/or receiving hospital early notification.

The map shows a road network with a red car icon at the crash location. The car is circled in red. A red arrow points to the car, and a blue arrow points to the right. The map includes labels for 'New Plymouth', 'Sand Hollow Rd', 'Dewey Rd', and 'Letha'. Highway markers for 30, 72, 52, and 84 are visible. A scale bar shows 2 miles and 2 kilometers. Map data is attributed to ©2010 Google.

9-1-1 ACCESS AND CAPABILITIES

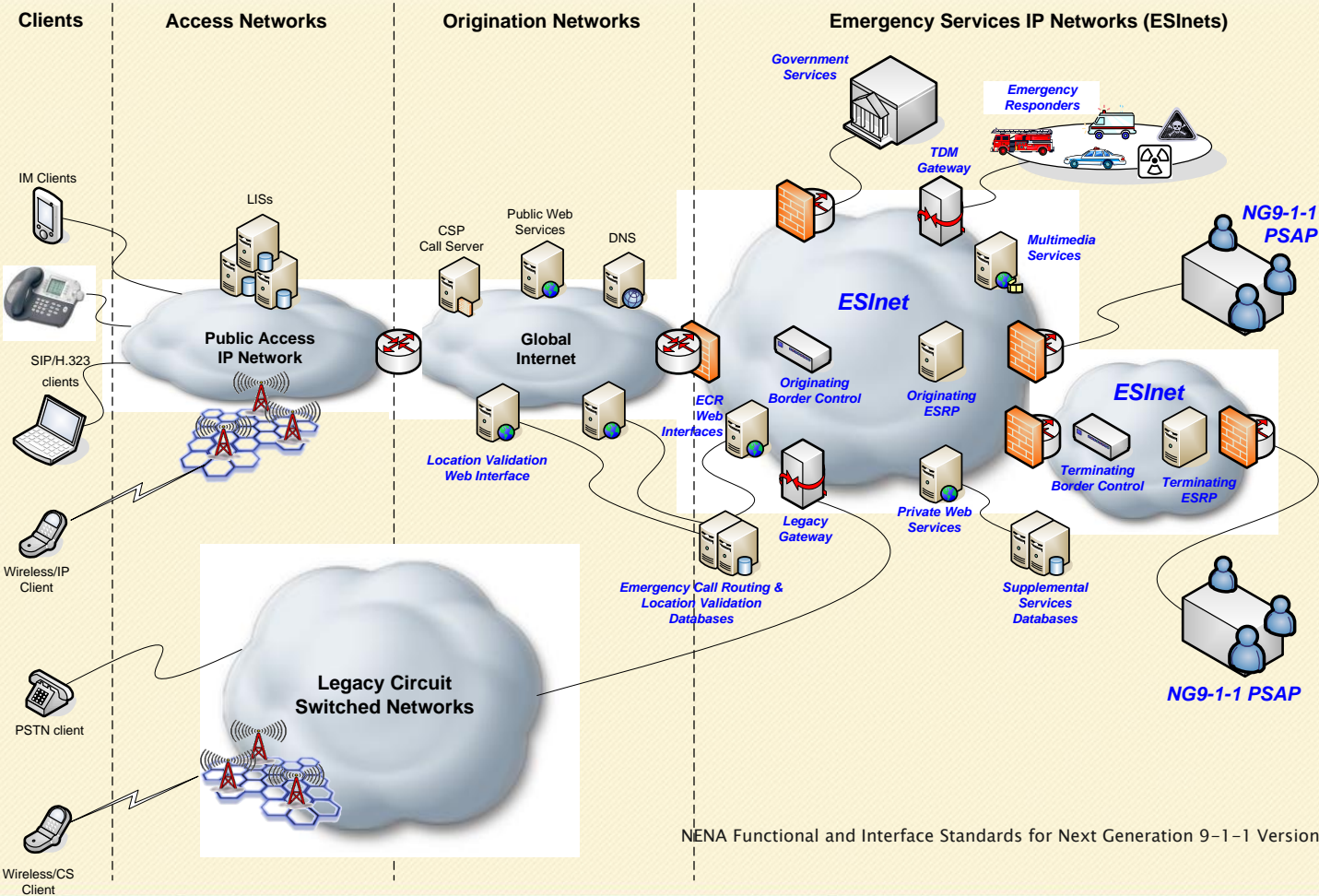
- Enhanced 9-1-1 and Phase II Compliance
- Next Gen 9-1-1



TSAG

TRANSPORTATION SAFETY ADVANCEMENT GROUP

Promoting Technology for Public Safety




EMS RESPONSE AND CAPACITY

- **Integrated Ambulance-Based Safety Systems**
- **Evidence-based Emergency Vehicle Operations Standards**
- **Connected Emergency Response Vehicles**

EMS RESPONSE AND CAPACITY

- **National EMS Scope of Practice Model and National EMS Education Standards**
- **Vehicle Extrication Education and Competency Standards**
- **Regionalization of Emergency Care**

ON SCENE MEDICAL CARE

- **Field Triage Decision Scheme:
The National Trauma Triage
Protocol**
 - **The National Unified Goal for
Traffic Incident Management**
- 

ON SCENE EMERGENCY MEDICAL CARE





EMS Personnel

Transportation/ Ambulances



Specialized Patient Care Equipment





Public Safety Answering Points and Communications


Medical Direction



EMS INCIDENT RESPONSE AND READINESS ASSESSMENT



EMS INCIDENT RESPONSE & READINESS ASSESSMENT


- ▶ “What preparation/planning would we be doing in advance of a mass casualty incident on this stretch of highway in order to be optimally prepared?”
 - ▶ Scale of responses from “unknown” to “none” to “awesome”
 - ▶ Activity focused
 - ▶ Allows for identification of opportunities for improvement
- 

INFRASTRUCTURE – Transportation Operations




- ▶ Route Access & Awareness
- ▶ Access Control
- ▶ Vehicle and Personnel Staging
- ▶ Designated Landing Zones
- ▶ Transport of Special Equipment and Supplies

INFRASTRUCTURE – Technology/ Intelligence Sharing for Situational Awareness/Connected Vehicles

- ▶ Route availability/GPS
 - ▶ Congestion
 - ▶ Other Incidents
 - ▶ Remote Weather Information Systems (RWIS)
 - ▶ Advanced Automatic Crash Notification (AACN)
 - ▶ Automatic EMS Vehicle Location Identification (AVL)
- 

EIRRA: Many Uses

- ▶ Guidelines to identify areas of improvement and measure progress over time
 - ▶ Can be used at the state, regional or local level
 - ▶ Doubles for all-hazards preparedness assessment
 - ▶ Can be used to identify needs and priorities (DHS, 402, HSIP, etc.)
- 



PATIENT TRANSPORTATION PARADIGMS

- **Engineering and Design Standards for Ambulances**
- **Helicopter EMS Utilization Criteria**
- **Ambulance Access to Intelligent Transportation Systems (ITS) Infrastructure**

DEFINITIVE CARE: HOSPITAL AND SPECIALITY CARE INFRASTRUCTURE

- Prehospital and Interfacility Telemedicine Applications
- Trauma Systems



CrashHelp System Prototype



For: EMT's / Paramedics in the field
Google Android Compatible Phone
Android Application



**For: Emergency Department /
Trauma Center**
Web based interface

Mobile Phone Application

- Take Pictures and Video





THE CENTER OF IT ALL



↑ Franklin Rd.

City Center →



DETOUR
↑

St. Clair

RIGHT TURN
YIELD

CHINESE BUFFET

2000 W. GARDEN ST. BOISE, IDAHO 83721

CROSSCUTTING STRATEGIES:

- **National EMS Information System**
- **Hospital Discharge Databases and/or Trauma Registries**
- **Records Linkage**

SUMMARY: the 4th E

- **Until the other 3 Es are 100% effective, EMS is the only hope**
- **Potential improvements through EMS cross many boundaries**
- **Technology an extremely promising area if EMS is considered**
- **Let's exploit our centers of excellence!**

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<http://MontanaEMS.mt.gov>
(406) 444-3895

<http://naseonso.org/Projects/HITS/documents/TZDEMWhitepaper.pdf>

