This morning’s Webinar

- Update on EMS Transport Safety
- An overview of the TRB and opportunities for EMS
- Research funding pathways via the TRB
- Review of TRB EMS Safety Subcommittee’s activities
- National updates
- Synopsis of the EMS Safety Systems, Strategies and Solutions Summit
- Technical Science, Standards and Guidelines presentations
- Fleet Management Tools update
- Research Needs/Problems/Statements
Today's AGENDA

1. Registration
2. Opening Remarks
3. Subcommittee Meeting
   3.1 Introductions
   3.2 Review and Approval of Minutes from 2012
   3.3 Review of Subcommittee activities 2012
   3.4 Subcommittee work program updates
      3.4.1 Ambulance Transport Safety Summit 2014
      3.4.2 Research Needs Statements - Research Topics Database
      3.4.3 Administrative issues
         3.4.3.1 Liaison organizations
         3.4.3.2 TRB Changes/Communications/Website
         3.4.3.3 Membership/Recruitment
         3.4.3.4 2014 TRB Session Topics and Calls for Papers
   3.5 EMS National Updates –
      4 Synopsis of the Safety Summit February 29, 2012
      5 BREAK 10:30 to 10:45 AM
   6 Standards and Guidelines Update
      6.1 Current and developing Ambulance Standards update
      6.2 Discussion of technical issues relating to pediatric patient transport safety guidelines
      6.3 Overview of new fleet technologies
   7 Research Needs
      7.1 12:00 - 12:30PM

The TRB and EMS

- **TRB Mission:**
  To provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multi-modal.
- **TRB Goals:**
  - Be prepared for challenges.
  - Conduct and promote knowledge.
  - Provide timely and informed advice.
  - Act as an effective and impartial forum.
  - Promote collaboration.
  - Contribute to the professional development.
  - Conduct and promote communications efforts.
  - Contribute to public's understanding.
  - A resource to the nation and to the transportation community worldwide

What is ANB 10 (5)?

- Emergency Medical Services Safety Subcommittee, ANB 10 (5)
- Subcommittee of the Transportation Safety Management Committee ANB 10, of the Transportation Research Board of the National Academies

EMS Safety Subcommittee ANB10(5)

- Subcommittee supported by Transportation Safety Management ANB10
- Established July 2007
- First Subcommittee meeting – Jan 2008
- Chair, Nadine Levick MD, MPH
- Co-Chair, Eileen Frazer, RN
- Scope – Medical Transport Safety
Subcommittee structure

- Chair
- Co-Chair
- Secretary
- Technical Project Manager
- Liaisons

Multidisciplinary research

- Encompassing all aspects of transportation
- The expertise that EMS needs to address its transportation safety challenges includes:
  - Systems design
  - Transport systems safety
  - Human factors
  - Vehicles
  - Vehicle operations
  - Air medical transport safety
  - Impaired operators
  - Road design and egress and access
  - Highway and operational hazards

Fragmentation

- There are now numerous and variably sound or technically sophisticated events occurring sporadically on ambulance safety – none under a transportation umbrella

ANB10 (5) TRB EMS Subcommittee Mission

- ‘Bridging the gap between what we do and what is known
  - Enhancing ambulance transport safety through shared knowledge of technical data’.

Integration

ANB10(5) is an independent platform for:
- Bringing fragmented information together
- Uniting diverse disciplines
- Focus on technically robust information

Who is here in this EMS Subcommittee meeting this year
Technical Science, Guidelines and Standards Presentations

• Commence at 9.45am EST
  – Synopsis of 2012 EMS Safety Systems, Strategies and Solutions Summit 45 mins
  – Standards and Guidelines Update 105 mins (interactive)
    • Current and developing Ambulance Standards update
    • Discussion of technical issues relating to pediatric patient transport safety guidelines
    • Overview of new fleet technologies
  – Research Needs 30 mins

Jan 2012 ANB10(5) Subcommittee Meeting

• Well attended, diverse audience, though hampered by internet connection challenges for virtual participants
• >17,000 downloads of Subcommittee meeting documents/handouts within 4 weeks!!!!

Safety Systems, Strategies and Solutions Summit Feb 2012
(synopsis to follow at 9.45 am EST)

• ~50 onsite – lead representatives
• Live online participation with international representation
• 7 focus areas and a panel
• >20,000 downloads of presentation handouts
• Multi-Media ‘e-document’ with 2D etags
• YouTube overview

ANB10(5) Updates

• Ambulance Transport Safety Summit plans 2014
• Research Needs Statements development
• Administrative Issues
  i. Liaison organizations
  ii. TRB Changes/Communications/Website
  iii. Membership/Recruitment
  iv. 2014 TRB Session Topics and Calls for Papers
A HUGE Thank you from ANB10(5) to Rick Pain PhD for steadfast, inspiring and insightful mentorship

Without Rick’s visionary leadership, none of the activities of ANB10(5) would have ever been possible

What is EMS?
- Emergency Medical Services – (EMS)
- Emergency medical care, public health, public safety and patient transport
- Bridge between the community and the hospital
- Volunteer – professional
- Urban – rural
- Disaster response
- Majority of transports NOT critical or life threatening – (<3% are critical)

Transport related aspects of EMS
- dispatch of EMS vehicles
- transport policies and protocols
- vehicle fleets and vehicle design
- vehicle purchase standards
- Intelligent Transportation Systems technology
- driver training
- driver performance monitoring
- roadside and road design
- integrated traffic safety technologies
- scene safety and visibility
- safety data capture
- safety oversight

Balance of concerns and risk during transport
- Response and transport time
- Clinical care provision
- Occupant safety/protection
- Public Safety
Ambulance Transport Safety IS Complex AND Multidisciplinary

USA EMS transport safety data estimates
- ~ 81,000 vehicles
- ~ 9,000 crashes a year
- ~ One fatality each week
  - ~ 2/3 pedestrians or occupants of other car
- ~10 serious injuries each day
- Cost estimates > $500 million annually

In the USA there are more safety standards for moving cattle than for moving patients

Negative impact on system performance...
- A medical error may kill a patient
- An EMS crash can kill all those involved AND wipe out a rural EMS system AND negatively impact a regions response capacity......

Ambulance transport a serious USA transport safety problem...
- the most lethal vehicle on the road both per mile travelled and per vehicle
- is exempt from federal commercial fleet safety oversight (FMCSA)
- 2/3 fatalities not in the ambulance
- Exempt from most FMVSS standards

The Transportation Research Board (TRB)
- History
TRB was established in 1920 as the National Advisory Board on Highway Research to provide a mechanism for the exchange of information and research results about highway technology.
TRB MISSION

• To provide leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal.

TRB research programs

• Cooperative Research Programs manages
  – National Cooperative Highway Research Program - NCHRP
  – Transit Cooperative Research Program - TCRP
  – Airport Cooperative Research Program – ACRP
  – National Cooperative Freight Research Program - NCFRP
  – Hazardous Materials Cooperative Research Program - HMCRP
• Strategic Highway Research Program 2 (SHRP-2)
  – manages a targeted, short-term, results-oriented program of contract research designed to advance highway performance and safety for U.S. highway users.
• Administration and Finance provides financial, information technology, and other administrative support, including financial oversight of the contracts and grants that support the work of TRB, administration of publications sales and distribution, and maintenance of benefits and services for sponsor and affiliate organizations.

Transportation Research Board is an excellent resource... we should be using it!!

TRB divisions

• Technical Activities supports standing committees and task forces.
• Studies and Special Programs convenes specially appointed expert committees to conduct policy studies and program reviews, maintains the TRIS database, provides library services, prepares synthesis reports on behalf of the Cooperative Research Programs, and manages the Innovations Deserving Exploratory Analysis (IDEA) programs.

Special role for EMS at TRB

• One of the Key 4 E's
  – Engineering
  – Education
  – Enforcement
  – Emergency Medical Services

In Summary TRB Services

• A resource to the nation and to the transportation community worldwide
  – Opportunities for information exchange on current transportation research and practice
  – Management of cooperative research and other research programs
  – Analyses of national transportation policy issues and guidance on federal and other research programs
  – Publications and access to research information from around the world.
Who is attending the 92nd TRB meeting

- 11,300-11,400 transportation related researchers and technical personnel from all over the globe

TRB Structured Transportation Research Programs, Agendas and Resources

TRB 2013

- Multiobjective, Stochastic, and Capacity-Constrained Static Location Model for Ambulances (13-4872)
  - Behzad Karimi, University of Illinois, Chicago, presenter
  - Yousef Shafahi, Sharif University of Technology, Iran, presenter
  - Abolfazl Mohammadian, University of Illinois, Chicago, presenter
- Karl Sturm, University of Illinois, Chicago, presenter
  - No abstract available P13-6629
Transportation Research Information Services (TRIS)

- Online Research Information
- TRB produces and maintains the Transportation Research Information Services (TRIS), the world’s largest and most comprehensive online bibliographic database of published and ongoing transportation research.
- Through a cooperative agreement with the Bureau of Transportation Statistics, the TRIS Database is available on the Internet through the website of the National Transportation Library. This service, TRIS Online, can be accessed through the TRB homepage at www.TRB.org. TRIS is also available through two fee-based services, Dialog and Silverplatter’s TRANSPORT CD-ROM.

Other TRB Online Resources

- Research in Progress (RiP) Database
  - RiP provides access to more than 9,500 descriptions of current or recently completed transportation research projects from federal and state transportation agencies, universities, and international organizations
- The TRB Publications Index is a searchable index of the Board’s papers and reports.

Synthesis Program

- Reports on current knowledge and practice
- Synthesize fragmented, scattered, and unevaluated existing information
- Initiation of ~ 12 syntheses per year
- Selection process for synthesis topics:
  - widespread enough to generate broad interest
  - timely and critical for expediting delivery, improving the quality, or lowering the cost of transportation programs
  - current practice is non-uniform or inconsistent from agency to agency, or if the validity of some practices appears to be questionable
  - a need to organize and compress that which has already been learned and written on the topic
  - ongoing research or other activities in progress should not render the synthesis obsolete shortly after completion

National Cooperative Highway Research Program (NCHRP) Synthesis

- New NCHRP Synthesis topics submissions due February, 2011

Strategic Highway Research Program (SHRP 2)

- Congress established the second strategic highway research program (SHRP 2) in 2006 to investigate the underlying causes of highway crashes and congestion in a short-term program of focused research. Focus areas:
  - Safety: Significantly improve highway safety by understanding driving behavior in a study of unprecedented scale
  - Renewal: Develop design and construction methods that cause minimal disruption and produce long-lived facilities to renew the aging highway infrastructure
  - Reliability: Reduce congestion and improve travel time reliability through incident management, response, and mitigation
  - Capacity: Integrate mobility, economic, environmental, and community needs into the planning and design of new transportation capacity
Research Approaches

- Submission avenues:
  - Synthesis topic - NCHRP
  - SHARP 2 – Safety
  - Research questions/Problem statements

Sample Research Question

ANB10(5) Umbrella Committee is ANB10 Transportation Safety Management
How do TRB Subcommittees work?

Problem statement development in progress from 2008-2012

- Development and application of standardized definitions to capture EMS transport data across all agencies.
- Identifying ambulance fleet mix by state
- Determination of current state based emergency vehicle crash data capture and analysis; police, fire and EMS.
- Identifying the regional essential and optional equipment payload for ambulances
- Evidence for ambulance visibility and conspicuity
- Effectiveness and cost effectiveness of real time driver monitoring feedback devices for EMS services
The Framework developed by NCHRP 17-51 will be a tool that Stakeholders can use to formulate their Highway Safety Plans which integrate EMS, at the National, State, or Local Level. More information about the Framework Project is available at: http://www.strategicsafetyplan.com

The Cloud is Global

Social media - twitter #ANB10(5) & #EMSSafety
How do you use an eTag for the first time?

Get Microsoft Tag App on your smartphone (free from your App store, it reads ALL eTags)
open Tag App and scan the eTag

www.objectivesafety.net/TRBSubcommittee.htm page will open directly on your phone

TRB Subcommittee info etag
will take you here
http://www.objectivesafety.net/TRBSubcommittee.htm

Sign up for ANB10(5) here…

Heat Map of use of eTag

You Tube

Watch EMSSF TRB 2012 Summit Synopsis Webinar here
www.youtube.com/watch?v=avFji06bYcY
EMS and TZD

Toward Zero Deaths

The 4 E’s
- NEMSIS
- Transport Safety
- EMS Z.15
- Enhancement of Trauma Systems

TZD EMS 2010 White paper

There were a series of White Papers commissioned for the Towards Zero Deaths (TZD) road safety project to address visions for the future as the foundation for this NCHRP project – one of which was on EMS. The document written under Federally funded contract in 2010, “White Paper No. 7 — Emergency Medical Services (EMS)”


Federal Highway Administration
FHWA Toward Zero Deaths

TSAG

http://www.tsag-its.org/
Course Design

- One-day program
- Interactive lecture, discussion, group activities
- Case studies using real incidents
- 8 hours continuing education credit (CECBEMS)
- Presented in 8 modules

Course Modules

- Introduction
- Crew Resource Management
- Emergency Vehicle Safety
- Scene Operations
- Patient Handling
- Provider, Patient & Bystander Safety
- Personal Health
- Conclusion
Second-year Progress
(Course Rollout @ EMS Today, March 2011)
• 12 State and National Courses conducted
• 233 Local & Regional courses held
• 2,862 EMS Practitioners trained
• 849 Instructors certified
• Active programs in 41 states
• Active or proposed programs in 3 countries

Future Goals & Objectives
• Establish programs in remaining states
• Continue international program expansion
• Revise EMS Safety Course
• Create EMS Safety Officer Course
• Collaborate with American Assn. for Emergency Psychiatry re “Agitated Patient” project
• Continue participation in “EMS Culture of Safety” Project
• Continued collaboration with the EMS Safety Foundation

NAEMT EMS Safety Course
For more information about the course,
✓ go to www.naemt.org, click “EMS Safety”
✓ call 1-800-346-2368 (1-800-34NAEMT)
✓ email info@naemt.org
✓ visit “NAEMT EMS Safety” on Facebook

Or enroll in the upcoming class on March 6th at EMS Today in Washington, DC

National EMS Culture of Safety
Sept 2010 – Sept 2013
Strategy Status Update and Overview
January 16, 2013

Project Background
Emergency Medical Services (EMS) has been identified as a high risk industry with injuries and deaths among both EMS personnel, their patients and the public.

The National EMS Advisory Council (NEMSAC) recommended that the National Highway Traffic Safety Administration (NHTSA) and the rest of its Federal partners move forward with the development of a “Culture of Safety” in EMS.
Identified Elements:

- Just Culture
- Coordinated Support & Resources
- EMS Safety Data System
- EMS Education initiatives
- EMS Safety Standards
- Requirements for Reporting and Investigation

Comments due on final draft Jan 29, 2013

Traffic Incident Management

Planning and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM reduces the duration and impact of traffic incidents and improves the safety of motorists, crash victims and emergency responders.

- Emergency Medical Services
- Fire and Rescue
- Law Enforcement
- Towing and Recovery
- Transportation
- Medical Examiners/Coroners
- Metropolitan Planning Organizations
- Public Emergency Access Points (911 centers)

The TIM Network

Very similar to the EMS Safety Foundation
- Gathering of practitioners from all locations and all TIM disciplines to collaborate, communicate, coordinate, and cooperate
- Nearly 1,000 members from all disciplines
- Free membership
- Controlled communications
- Monthly newsletter
- Monthly webinars
- Online membership directory
- Job Postings – Coming Soon!
National Unified Goal for Traffic Incident Management

- 18 Cross-cutting strategies to support three overarching goals
  - Responder Safety
  - Safe Quick Clearance
  - Prompt, Reliable, Interoperable Incident Communications
- Basis for TIM Network activities

Where can I find the TIM Network?

- Look for Tim Shareswell
- On the web – www.timnetwork.org
- On Facebook – “Tim Shareswell” and “National Traffic Incident Management Coalition”
- Twitter – “The_TIM_Network”

NIST EMS Collaboration

EMS Safety Foundation Meeting with NIST July, 2012

NIST Developments

- Meeting at NIST with EMS Safety Foundation, July 2012
- Presented at NASEMSO, Sept 2012
- Presented at EMS Expo, Nov 2 (and booth)
- TRB EMS Subcommittee, January 2013
- Final design concepts July 2013
NIOSH

- Occupational injuries and illnesses among emergency medical services (EMS) workers
  - Project contact: Audrey Reichard
  - Division of Safety Research
  - (304)285-6019
  - Project period: 2009-2016

- Partnering with Industry to Build Safe EMS Work Environments –
  - Involving DHS, AMD/ NTEA, NFPA 1917

NIOSH

http://www.mmucc.us/

National EMS Assessment

International CAD Consortium April 28- May 2, 2013
http://intlcado.ipower.com/1901.html

Hot off the Press!!!

CAMTS reference entitled:
“Safety and Quality in Medical Transport Systems: Creating an Effective Culture”
Get it at Amazon

Or CAMTS website
http://www.camts.org/pre-order here shipping free

Safety and Operational Innovation: Integrating Global Best Practice and Interdisciplinary Technical Expertise into Ambulance Design

White House Safety Data Jam May 2012

White House Safety Data Palooza September 14, 2012

Meeting with FMCSA Administrator

- Commencement of dialogue with leadership of Federal Motor Carrier Safety Administration regarding need for EMS Fleet safety performance data
Outline for FMCSA

Background outline of Ambulance Transport Safety Issues:
1. Demonstrated high crash and crash fatality rates, both per vehicle and per mile travelled
2. No involvement of auto safety technical expertise in ambulance design standard development
3. Manufactured outside of the oversight of automotive safety/occupant protection infrastructure
4. Scarce resource – 80,000 vehicles
5. 97% transports are non-emergent but lives depend on that 3%
6. Response time is the system performance measure, and with minimal outcome correlation
7. No transportation safety benchmarks
8. No monitoring of ambulance transport safety
9. No oversight of ambulance transport safety, NHTSA oversees medical competency standards
10. Anecdotal transport safety performance data only - No national database
11. Largely a commercial fleet
12. Operating outside of existing FMCSA safety purview due to an exemption from FMCSA regulations

GAO findings

- Transports for all Medicare fee-for-service beneficiaries grew 33% 2004 to 2010
- Transports nationwide grew most in super-rural areas (41%) relative to urban & rural areas
- 59% increase in basic life support (BLS) nonemergency transports
- BLS nonemergency transports in super-rural areas grew the most—by 82%

Research Problem Statements

Developed 3 small and 2 larger project outlines
1. Data definitions of:
   i. ambulance
   ii. emergency response
   iii. ambulance crash
2. Essential/Optional Ambulance Equipment
   What does each state require? Expert panel to identify:
   i. essential equipment
   ii. optional equipment
   iii. equipment specific to regional needs
3. Fleet mix, by state

Research Problem Statements

2 larger project outlines
4. Effectiveness and cost effectiveness of EMS monitoring feedback devices
5. Determination of State based emergency vehicle data capture and analysis: police, fire and EMS
Forthcoming 2013 Plans:

• White paper focusing on Technical Science underpinning guidelines and standards
• Minitopic seminars
• Preparation for Safety Systems Strategies & Solutions Summit 2014
• Enhance social media footprint

Any questions or comments?

New Business

• New projects
• Task Force?