Welcome to the National Academies, TRB 92nd Annual Meeting
“Deploying Transportation Research - Doing Things Smarter, Better, Faster”

The National Academies
Transportation Research Board (TRB)
EMS Transport Safety ANB10(5)
January 2013 Subcommittee Meeting

Thursday January 17th 8-12.30
at Keck Center Room 101

Emergency Medical Services Safety Subcommittee ANB10(5)
of the Transportation Research Board
Thursday January 17th, 2013
8.00 am – 12.30 pm
also via Webinar, Washington DC

Chair – Nadine Levick MD, MPH
Co-Chair – Eileen Frazer RN
Sponsored by Transportation Safety Management Committee (ANB10) –

Fleet management approaches

• ACETech/Ferno
• FleetEyes – Intermedix
• Zoll rescuenet and road safety fleet management systems
• Marvlis
• Telematicus
• Optima
• Northrop Grumman
Data Collection & Driver Feedback System

- Onboard computer installed in each vehicle to assess driving performance
- Audible feedback puts drivers in control of performance

Data Upload and Reporting

Data collected onboard is transferred via wireless data hub to ZOLL online for reporting and analytics.

5% of Drivers Cause 95% of Problems

- Identify safe, efficient drivers and provide additional incentives and rewards.
- Identify and manage the exceptions.

ABC’s of Safe Driving

- Driver grading system
  - Average miles
  - Between
  - Counts (violations)

Other events and behaviors monitored

- Braking, acceleration and side/sway forces
- Emergency lights and sirens
- Engine RPM
- Engine idle time (indicates wasted fuel)
- Distance driven
- Turn signals
- Numerous others—what’s important to you?
Are You Reactive or Proactive?

- Reactive
  - Review incidents days or weeks later
- Proactive
  - Identify and modify risky driving immediately
  - Arrive safely on scene serving community

Communications Central

- Road Safety is a Wi-Fi Hotspot!!
- Can connect all Wi-Fi devices in the vehicle:
  - Mobile Data Terminals
  - ePCR
  - Defibs
- GPS built into the Units
  - Ties Road Safety events to a location
  - Viewable on a map in the event detail report
  - GPS data can be sent to as many as 4 separate locations
- Provides Real-Time Alerts: Email and SMS
  - Diagnostic Trouble Codes can be provided to fleet
  - Safety Alerts provided to office in dangerous situations

Global Green Drivers

“Low Cost Safe Driving Platform”

Telematicus

Software solutions for business process operations and management

CABIS® Business Solutions

"Convergence?"

Driver Technology

Handheld device collects and communicates key data
- Speed
- Braking & Acceleration
- Time & Location
- Pictures & Video

Aftermarket Technology

Installation to vehicle

OEM Technology

Connected vehicle becomes an IP point, data access

Software solutions for business process operations and management

CABIS® Business Solutions

Driver Alarm
- Instant SMS & Email location

Driver Risks
- Scorecards and Graphs
- Automated Messages
- Training

Trip playback
- Speed, Braking, Acceleration

Incident Recording
- Accident/Breakdown
- Photographs

Software solutions for business process operations and management
A core part of the OEM technology is Infotainment where there are opportunities for advertising and pay for media (music, video) services.

Given a lead in this area and openness (points of integration) for other categories of application including social media, travel, insurance/safety/risk management the Smart Phone becomes a useful platform for user interaction removing the costs of display in lower value marques. It will be resisted or dismissed by the more expensive marques e.g. Mercedes.

DoreA, 11/9/2011

For safety simply adding OBDII with minimal cost of install provides "high resolution" acceleration analysis.

DoreA, 11/9/2011
Incident Reporting

GGD Data Capture
- Real time
- Key details
- Photographs
- Details on application

Business System
- Individual records linked to drivers and vehicles
- Action planning and assignment
- Attachments e.g. photos

Reports
- Launch accident reporting process
- Export to Excel for manipulation
- Scorecard or crystal reporting

Telematicus

So What
- Capability
- Computing Power
- Convergence
- Costs

Telematicus

“Capabilities”

Integrated business system

Outlook view on home page with GGD modules included
List of Drivers within the system with key details, easy access to sorting information.

Ferno’s new innovation center

Emergency Vehicle Intelligence
The Future Is Now with

The ACETECH System provides system wide, on-board intelligence that improves the efficiency and safety of your emergency vehicles and staff, while reducing your operating costs.
ODBII is not really a fixed install. It's a bit of a hybrid but does give "high resolution" acceleration data.

I think the duty of care picture needs to show Smart Phone as well as handheld.. This leads to £5 + £2 (OBD11) giving £7 as good competitor for £13 black box. Otherwise the £13 black box seems to offer good value for money. Plus the accelerometer in the Smart Phone offers the potential for accident detection just like the black box. An area yet to be explored.

DoreA, 11/9/2011
Four Modular Functions

1. Vehicle operations center
   – Driver & vehicle operations
2. Patient Compartment
   – Mobile trauma bay environment; passive support
   – Communication, temperature, lighting, securement & access, storage, & overall interiorly & exterior safety
3. Medic platform – work environment & safety
   – Seating, operating areas, reach & access
4. Patient platform – care & safety focused
   – Cot & restraint system, patient care accessories

Vehicle operations center

– Driver & vehicle operations
   What are the issues?
   • Safety in and of the ambulance
   • Vehicle idle time and associated fuel consumption expense
   • Theft of ambulance
   • Theft of drugs or equipment from vehicle
   • Utilization of ambulance in a terrorism act.
   – Additional Operational Issues
     • Downtime and turnaround time on electrical faults on vehicles
     • Multiple on-board systems which are not integrated (electric & communication)
     • Back-end data systems which are not integrated or require manual activation

ACETECH Core Benefit

1. Integrated/Modular Solution
2. ROI
3. Vehicle Performance
4. User Power
5. Service
   – Affordability
   – Excellent warranty
   – Reliable
   – Modular design
   – Forward thinking
   – Product/OEM Support

Electronic Control Unit (ECU)

• The ACETECH ECU monitors vehicles CAN bus messaging. CAN bus is a stable high speed in-vehicle communication system.
• CAN bus is running in vehicles today. We simply tap in, read it and put vehicle information at your fingertips.
• The ACETECH ECU monitors vehicles CAN bus messaging. CAN bus is a stable high speed in-vehicle communication system.
  - The ECU controls many devices that otherwise would require many separate controllers.
  - Controllers available in 4 sizes.

ACETECH™ ECO-Run

This graph indicates battery drain when engine is off and on-scene lighting was active. Auxiliary battery dropped to 11.5 volts (pre-programmed ECO-RUN start) in approximately 2.7 hours.

Advanced Vehicle Informatics (AVI)

• This data feed system provides many

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<th>Vehicle Status</th>
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<td>Stationary, Ignition On/Off, Speed, Batteries</td>
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<th>Lone Worker Capability / Panic Button</th>
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  | Idle Monitoring, Carbon Monitoring | Real Time Odometer Readings | ECO Run Monitoring capability |                  |
ACETECH™ Web
• Mapping, reports, alerts, hotspots, vehicle data

ACETECH™ Safety System Benefits ROI
• The following is a partial list of benefits that may be realized through a properly managed vehicle safety program.
  • Fewer collisions
  • Fewer collision/near collision related injuries
  • Reduced insurance premiums
  • Fewer lawsuits
  • Reduced repair costs
  • Fewer towing bills
  • Reduced light duty
  • Increased vehicle life
  • Less time spent investigating incidents- more time for beneficial activities
  • Improved image
  • Improved financial performance

ACETECH™ Geo Fencing
• Set boundaries for vehicle travel and to receive automatic notification when a vehicle leaves this boundary
• Important in theft control.
• Maintain vehicles at expected locations thereby reducing response times, speeding events and fuel expense.

ACETECH™ in the Future
• Advanced camera systems. Use of cameras to improve safety and security is not new. Camera systems include:
  • Rear view
  • Side View
  • Front view
• Cameras may also be used to provide real time consult with on-line medical control.

Any questions or comments?